344 Orange 1-49

HAM-71-1.30/9.00	OHIO FHWA REGION 5	1/401
IM/CMG-71-1(89)	FEDERAL PROJECT	

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
HAM-71-1.30/9.00
CITY OF CINCINNATI, CITY OF SILVERTON and CITY OF MADEIRA SYCAMORE TOWNSHIP and COLUMBIA TOWNSHIP HAMILTON COUNTY

APR 16 1997

DESIGN DESIGNATION

CURRENT YEAR A.D.T. (1993)	78,153
DESIGN YEAR A.D.T. (2013)	108,795
D.H.V.	10,879
D	62%
T	8%
DESIGN SPEED	55 MPH
LEGAL SPEED	55 MPH
FUNCTIONAL CLASSIFICATION:	URBAN INTERSTATE
DESIGN EXCEPTION:	SHOULDER WIDTH, STOPPING SIGHT DISTANCE, CROSS SLOPE, SUPERELEVATION, HORIZONTAL ALIGNMENT APPROVED 4-6-90

CONVENTIONAL SIGNS

County Line
Township Line
Section Line
Corporation Line or
Fence Line(existing) (proposed)
Center Line
Trees , Stumps ,(to be removed)
Utility Poles: Telephone , Power ,Light
Limited Access (only) LA
Right of Way (only) RW
Limited Access & Right of Way LA/RW
Existing Right of Way
Property Line (in existing fence)
Railroad or
Guardrail (existing) (proposed)
(Barrier) (Barrier)
Catch Basin Adjusted To Grade Manhole Adjusted To Grade

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		Drainage Profiles	138-140
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Maintenance of Traffic	29-78, 29A, 32A-E, 49A-C	Traffic Control/ Traffic Surveillance	230-253, 230A
Calculations	80-89		254A-254B,
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SHEETS NOT USED: 24, 79, 92, 136, 137, 254

LINE DATA

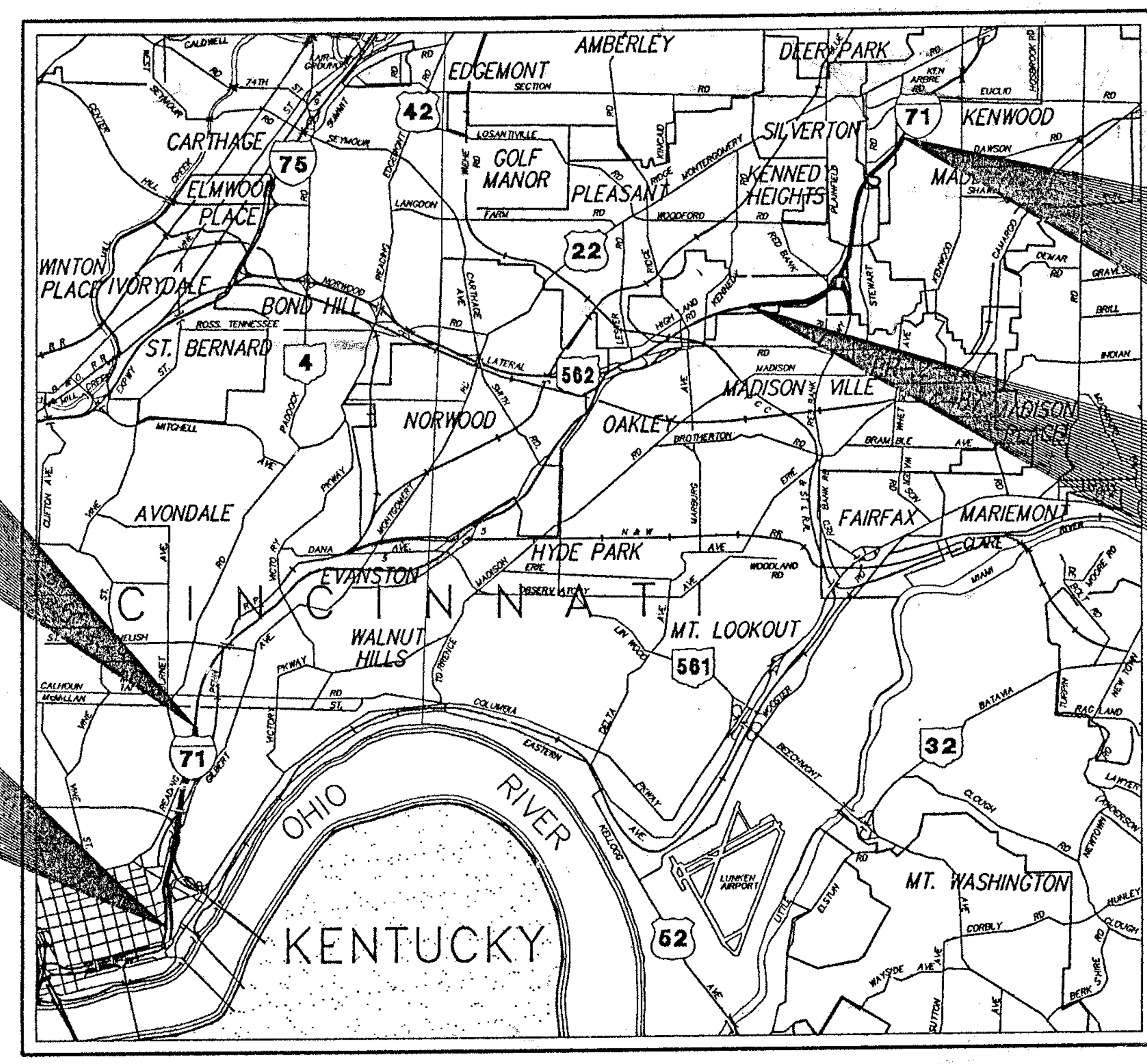
BEGIN PROJECT (SECTION 1) Sta 137+17.74NB
STATION EQUATION:
Sta 144+15.68NB Back
Sta 142+27.27SB Back = Sta 144+15.68℄ Ahead
STATION EQUATION:
Sta 166+12.27℄ Back =
Sta 166+12.27SB Ahead Sta 166+12.27NB Ahead
STATION EQUATION:
Sta 212+56.91SB Back
Sta 212+25.02NB Back = Sta 212+25.02 Ahead
SUSPEND PROJECT (SECTION 1) Sta 213+00.00℄
Length of Project 7,614.15 Lin Ft or 1.442 Miles
RESUME PROJECT (SECTION 2) Sta 436+82.72℄
STATION EQUATION:
~~Sta 434+25.00℄ Back~~ = Sta 435+07.72 Ahead
END PROJECT (SECTION 2) Sta 544+60.98℄
Length of Project 10,778.26 Lin Ft or 2.041 Miles
NET LENGTH OF PROJECT:
18,360.79 Lin Ft or 3.477 Miles

BEGIN WORK (SECTION 1) Sta 125+40.00SB
SUSPEND WORK (SECTION 1) Sta 215+62.50℄
RESUME WORK (SECTION 2) Sta 433+87.50℄
END WORK (SECTION 2) Sta 559+00.00℄
LENGTH OF WORK: SECTION 1 9563.92 Lin Ft
SECTION 2 12,429.78 Lin Ft

ADD FOR WORK ON THE FOLLOWING

Location	Station to Station	Linear Feet
N.B. Reading Rd.	13+14.00 to 32+08.50	1894.50 Lin Ft
Red Bank Expwy.	74+25.00 to 86+03.31	1178.31 Lin Ft

NET LENGTH OF WORK: 25,066.51 Lin Ft or 4.747 Miles



LOCATION MAP

Scale in Miles 0 1 2 3 4
Portion to be Improved
State & Federal Routes 75 43 33
Other Roads

SCALES

Plan — SECTION 1 0 20 40 SECTION 2 0 50 100
Profile — Horizontal 0 20 40 Vertical 0 5 10
Cross Section — Horizontal 0 10 20 Vertical 0 10 20

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
Call 800-362-2764 (Toll Free)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

IM/CMG-71-1(89)

LIMITED ACCESS

The improvement is especially designated for through traffic and has been declared a limited access highway or freeway by action of the director in accordance with provisions of section 5511.02 of the revised code of Ohio.

1995 SPECIFICATIONS

The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of local streets and that detours will be provided as indicated on plans.

Under authority of Section 4511.21, Division (I) of the revised Code of Ohio, the revised PRIMA FACIE speed limits as indicated herein are determined to be reasonable and safe, and are hereby established for the duration of this project. The PRIMA FACIE speed limit or limits hereby established shall become effective when appropriate signs giving notice thereof are erected.

Approved Gary M. Keller
Date 12-29-94 District Deputy Director of Transportation

Approved Richard L Engel
Date 3-30-95 Engineer, Bureau of Bridges and Structural Design

Approved Christopher L. Runyan
Date 5-11-95 Deputy Director, Design

Approved Jerry Wray
Date 5-11-95 Director, Department of Transportation

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

BP-1.1	2-21-92	GR-1.1	5-6-91	MC-6	1-30-84	HL-20.31	5-1-87	AS-1-81	11-27-81	TC-32.10	9-1-92	TC-65.10	2-1-90
BP-2.4	2-21-92	GR-1.2	10-30-92	MC-9.4	10-30-92	HL-30.11	5-1-87	BR-2-82	11-1-82	TC-32.11	9-1-92	TC-65.11	2-1-90
BP-2.5	2-21-92	GR-1.3	2-21-92	MC-9.2	5-6-91	HL-30.21	5-1-87	EXJ-4-87	1-20-94	TC-35.10	8-29-84	TC-72.20	2-26-82
BP-3.1	2-21-92	GR-2.1	5-6-91	MC-9.3	10-30-92	HL-30.22	5-1-87	SD-1-69	6-12-69	TC-41.10	8-29-84	MT-95.31	10-10-88
BP-5.1	10-28-94			MC-10	5-1-76	HL-30.31	5-1-87	VPF-1-90	2-1-92	TC-41.20	6-21-94	MT-95.30	10-10-88
BP-2.2	10-28-94	GR-3.1	5-6-91	MC-11	8-1-78	HL-30.32	5-1-87	TC-12.30	1-20-84	TC-41.40	6-18-79	MT-98.12	6-24-93
BP-2.1	10-28-94	GR-3.2	5-6-91	HL-10.11	5-1-87	HL-30.33	5-1-87	TC-21.10	9-1-92	TC-41.50	6-21-94	MT-98.13	6-24-93
CB-5	11-10-83	GR-3B	1-21-85	HL-10.12	5-1-87	HL-40.10	5-1-87	TC-21.20	9-1-92	TC-42.10	8-19-77	MT-98.14	6-24-93
CB-2-3	5-1-79	GR-4.2	5-6-91	HL-10.13	5-1-87	HL-50.11	5-1-87	TC-21.40	9-1-92	TC-42.20	3-26-79	MT-98.15	6-24-93
F-1	11-10-83	GR-5.1	10-30-92	HL-10.31	5-1-87	HL-50.21	5-1-87	TC-21.41	9-1-92			MT-99.10	11-14-86
F-3	5-1-76	GR-8.1	1-31-94	HL-20.11	5-1-87	HL-60.11	5-1-87	TC-22.10	9-1-92	TC-51.11	9-3-94	MT-99.20	4-29-88
F-5	5-1-76	I-3A&B	4-1-80	HL-20.13	5-1-87	HL-60.12	5-1-87	TC-22.20	9-1-92	TC-52.10	4-3-79	MT-102.20	8-25-89
F-6	5-1-76	MC-4	7-26-76	HL-20.14	5-1-87	HL-60.21	5-1-87			TC-52.20	4-3-79	MT-95.32	8-25-89
F-4	11-10-83	MC-5	6-12-75	HL-20.21	5-1-87	HL-60.31	5-1-87	TC-31.21	9-1-92	TC-61.10	4-5-82	VPT-1-90	3-24-93

MT-95.40	10-1-92	MT-105.10	7-1-92
MT-98.16	6-24-93	MT-105.11	7-1-92
MT-101.60	7-1-92	RB-1-55	2-2-59

Revised 6/20/95

SUPPLEMENTAL SPECIFICATIONS

802	4-13-90	933	7-22-94
		944	5-2-94
812	5-15-91		
820	3-18-92	903	1-1-69
845	5-31-88	910	5-20-91
924	12-14-88		
931	7-19-94		
953	8-21-80		

Plans Prepared By:
WOOLPERT
409 EAST MONUMENT AVENUE
DAYTON, OHIO 45402
(513)-461-5660

Project
Date of Letting 8-16 1995 Contract No. 437

SEAL

\TRANS\16596\TITLESHT\1301TLE.DWG - OCT 03, 1994 - 10:10:16

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		O.B. 9-23-92 P.W.P. 9-2-94

HAM–71–1.30/9.00

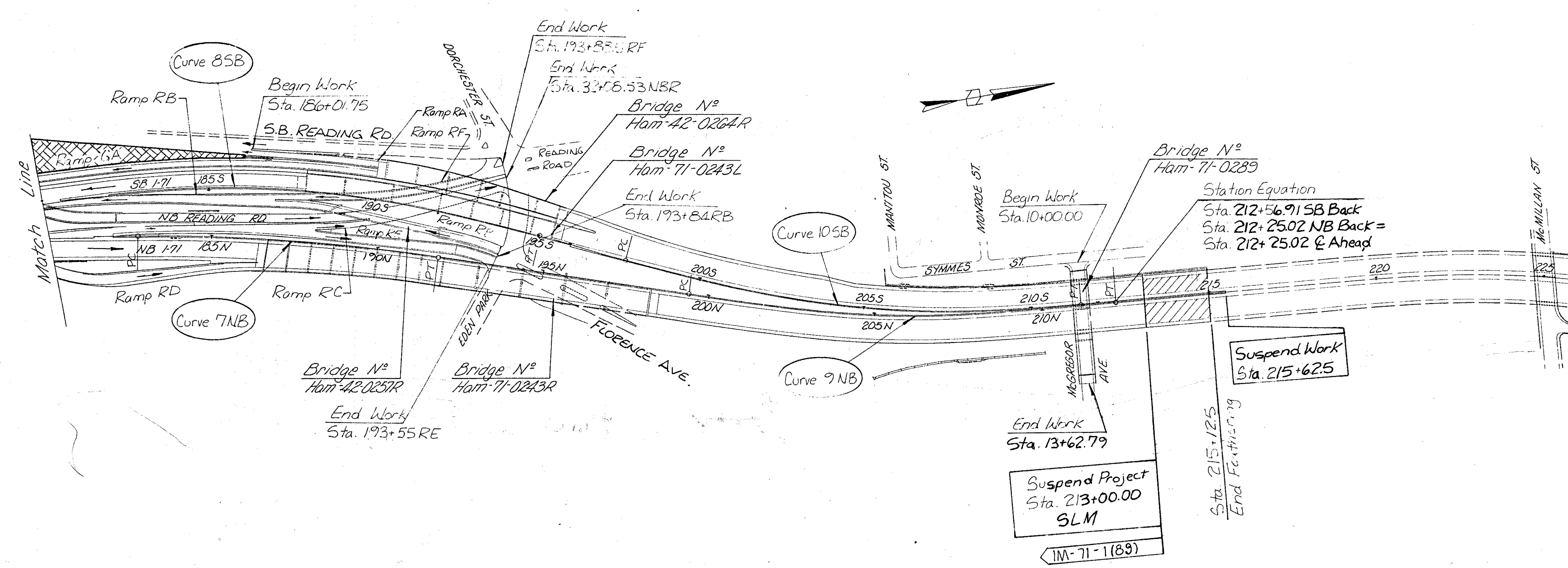
2 / 401

SCHEMATIC PLAN

200 0 200 400

GRAPHIC SCALE IN FEET

Landscape Protection Areas. (See General Note On Sheet 25)



PROJECT DESCRIPTION SECTION 1 AND 2

THE MAJOR ITEMS OF WORK TO BE PREFORMED UNDER THIS PROJECT CONSISTS OF THE FOLLOWING; BUT IS NOT LIMITED TO:

PROVIDE A 4 " ASPHALT OVERLAY ON THE MAINLINE AND 3 " ASPHALT OVERLAY ON RAMPS, CROSSROADS AND RED BANK EXPRESSWAY.

JOINT REPAIR OF EXISTING MAINLINE AND RAMP CONCRETE PAVEMENT.

WIDEN MEDIAN, MAINLINE AND RAMP SHOULDERS.

INSTALLATION OF NEW GUARDRAIL AND CONCRETE BARRIER.

NEW CONCRETE BARRIER RAILING, DECK OVERLAY, SUPER STRUCTURE AND SUBSTRUCTURE REPAIRS OF BOTH MAINLINE AND CROSS ROAD BRIDGES.

SAW AND SEAL JOINTS IN THE PORPOSED OVERLAY.

FULL DEPTH PAVEMENT REMOVAL AND REPLACEMENT AT MAINLINE BRIDGES.

NEW SIGNING, SIGN SUPPORTS AND PAVEMENT MARKINGS.

NEW UNDERDRAIN INSTALLATION.

REMOVAL AND REPLACEMENT OF FENCING AT SPECIFIED LOCATIONS.

NEW LIGHTING AND TOWER LIGHTING AT SPECIFIED LOCATIONS.

RECONSTRUCTED MAINLINE SHOULDER AT SPECIFIED LOCATIONS.

INSTALL 4" MULTI-DUCT CONDUIT, CONCRETE ENCASED, ON N.B. I-71 RIGHT IN SECTIONS 1 AND 2 FOR PROPOSED "ADVANCED REGIONAL TRANSPORTATION INTERACTIVE MANAGEMENT INFORMATION SYSTEM."

Note: See Sheet 3 for Section 1 Curve Data.

SCHEMATIC PLAN - SECTION 1

Curve 1 NORTHBOUND I-71

1A PI Sta. 117+71.27NB
PC Sta. 117+33.77NB
PCC Sta. 118+08.77NB
Δ = 0°33'30"
D = 0°44'40"
R = 7,696.45'
L = 75.00'
T = 37.50'

1B PI Sta. 118+46.28NB
PCC Sta. 118+08.77NB
PCC Sta. 118+83.77NB
Δ = 2°48'33"
D = 3°44'44"
R = 1,529.70'
L = 75.00'
T = 37.51'

1C PI Sta. 119+21.29NB
PCC Sta. 118+83.77NB
PCC Sta. 119+58.77NB
Δ = 3°55'39"
D = 5°14'12"
R = 1,094.13'
L = 75.00'
T = 37.52'

1D PI Sta. 119+96.31NB
PCC Sta. 119+58.77NB
PCC Sta. 120+33.77NB
Δ = 6°12'18"
D = 8°16'24"
R = 692.54'
L = 75.00'
T = 37.54'

1E PI Sta. 123+25.08NB
PCC Sta. 120+33.77NB
PCC Sta. 125+80.17NB
Δ = 49°10'34"
D = 9°00'00"
R = 636.62'
L = 546.40'
T = 291.31'

1F PI Sta. 126+17.72NB
PCC Sta. 125+80.17NB
PCC Sta. 126+55.19NB
Δ = 6°23'00"
D = 8°30'32"
R = 673.36'
L = 75.02'
T = 37.55'

1G PI Sta. 126+92.78NB
PCC Sta. 126+55.19NB
PCC Sta. 127+30.32NB
Δ = 4°48'00"
D = 6°23'20"
R = 896.80'
L = 75.13'
T = 37.59'

1H PI Sta. 127+67.84
PCC Sta. 127+30.32NB
PCC Sta. 128+05.32NB
Δ = 4°18'00"
D = 5°44'00"
R = 999.35'
L = 750.00'
T = 37.52'

1J PI Sta. 128+42.83NB
PCC Sta. 128+05.32NB
PCC Sta. 128+80.32NB
Δ = 2°31'00"
D = 3°21'20"
R = 1,707.49'
L = 75.00'
T = 37.51'

1K PI Sta. 13NB0+12.13NB
PCC Sta. 128+80.32NB
PCC Sta. 131+43.52NB
Δ = 7°53'46"
D = 3°00'00"
R = 1,909.86'
L = 263.20'
T = 131.81'

1L PI Sta. 131+68.52NB
PCC Sta. 131+46.52NB
PCC Sta. 131+93.52NB
Δ = 1°25'00"
D = 2°50'00"
R = 2,022.20'
L = 50.00'
T = 25.00'

1M PI Sta. 132+18.52NB
PCC Sta. 131+93.52NB
PCC Sta. 132+43.52NB
Δ = 1°05'00"
D = 2°10'00"
R = 2,644.42'
L = 50.00'
T = 25.00'

Curve 1 (Cont.)

1N PI Sta. 132+93.52NB
PCC Sta. 132+43.52NB
PCC Sta. 133+43.52NB
Δ = 1°40'00"
D = 1°40'00"
R = 3,437.75'
L = 100.00'
T = 50.00'

1P PI Sta. 133+93.52NB
PT Sta. 134+43.52NB
Δ = 0°20'00"
D = 0°20'00"
R = 17,188.74'
L = 100.00'
T = 50.00'

Curve 2 SOUTHBOUND I-71

2D PI Sta. 120+04.30SB
PC Sta. 117+37.31SB
PCC Sta. 122+56.01SB
Δ = 33°29'15"
D = 6°27'22"
R = 887.47'
L = 518.70'
T = 266.99'

2E PI Sta. 125+12.36SB
PCC Sta. 122+56.01SB
PCC Sta. 127+53.93SB
Δ = 33°36'34"
D = 6°45'00"
R = 848.83'
L = 497.92'
T = 256.35'

2F PI Sta. 127+91.44SB
PCC Sta. 127+63.93SB
PCC Sta. 128+28.91SB
Δ = 4°46'04"
D = 6°21'32"
R = 901.03'
L = 74.98'
T = 37.58'

2G PI Sta. 128+66.43SB
PCC Sta. 128+28.91SB
PCC Sta. 129+03.91SB
Δ = 4°16'30"
D = 5°42'00"
R = 1,005.19'
L = 75.00'
T = 37.52'

2H PI Sta. 129+41.42SB
PCC Sta. 129+03.91SB
PCC Sta. 129+78.91SB
Δ = 3°12'36"
D = 4°16'48"
R = 1,338.69'
L = 75.00'
T = 37.51'

2J PI Sta. 130+16.42SB
PCC Sta. 129+78.91SB
PCC Sta. 130+53.91SB
Δ = 3°07'24"
D = 4°09'52"
R = 1,375.83'
L = 75.00'
T = 37.51'

2K PI Sta. 131+03.92SB
PCC Sta. 130+53.91SB
PCC Sta. 131+53.91SB
Δ = 2°37'31"
D = 2°37'31"
R = 2,182.47'
L = 100.00'
T = 50.01'

2L PI Sta. 132+03.91SB
PCC Sta. 131+53.91SB
PCC Sta. 132+53.91SB
Δ = 1°52'22"
D = 1°52'22"
R = 3,059.40'
L = 100.00'
T = 50.00'

2M PI Sta. 133+03.91SB
PCC Sta. 132+53.91SB
PT Sta. 133+53.91SB
Δ = 0°22'33"
D = 0°22'33"
R = 15,245.00'
L = 100.00'
T = 50.00'

Curve 3 N.B. I-71

3A PI Sta. 137+62.72NB
PC Sta. 137+12.72NB
PCC Sta. 138+12.72NB
Δ = 0°16'23"
D = 0°16'23"
R = 20,983.20'
L = 100.00'
T = 50.00'

Curve 3 (Cont.)

3B PI Sta. 138+62.72NB
PCC Sta. 138+12.72NB
PCC Sta. 139+12.72NB
Δ = 1°21'45"
D = 1°21'45"
R = 4,205.20'
L = 100.00'
T = 50.00'

3C PI Sta. 139+62.72NB
PCC Sta. 139+12.72NB
PCC Sta. 140+12.72NB
Δ = 1°54'41"
D = 1°54'41"
R = 2,997.60'
L = 100.00'
T = 50.00'

3D PI Sta. 140+62.73NB
PCC Sta. 140+12.72NB
PCC Sta. 141+12.72NB
Δ = 2°59'41"
D = 2°59'41"
R = 1,913.23'
L = 100.00'
T = 50.01'

3E PI Sta. 141+50.23NB
PCC Sta. 141.12.72NB
PCC Sta. 141+87.72NB
Δ = 2°36'48"
D = 3°29'04"
R = 1,644.33'
L = 75.00'
T = 37.51'

3F PI Sta. 142+25.23NB
PCC Sta. 141.87.72NB
PCC Sta. 142+62.72NB
Δ = 3°13'12"
D = 4°17'36"
R = 1,334.53'
L = 75.00'
T = 37.51'

3G PI Sta. 144+42.51
PCC Sta. 142+62.72NB
PCC Sta. 146+19.94
Δ = 16°04'30"
D = 4°30'00"
R = 1,273.24'
L = 357.22'
T = 179.79'

3H PI Sta. 146+57.45
PCC Sta. 146+19.94
PCC Sta. 146+94.94
Δ = 3°13'12"
D = 4°17'36"
R = 1,334.53'
L = 75.00'
T = 37.51'

3J PI Sta. 147+32.45
PCC Sta. 146+94.94
PCC Sta. 147+69.94
Δ = 2°36'48"
D = 3°29'04"
R = 1,644.33'
L = 75.00'
T = 37.51'

3K PI Sta. 148+19.95
PCC Sta. 147+69.94
PCC Sta. 148+69.94
Δ = 2°59'41"
D = 2°59'41"
R = 1,913.23'
L = 100.00'
T = 50.01'

3L PI Sta. 149+19.94
PCC Sta. 148+69.94
PCC Sta. 149+69.94
Δ = 1°54'41"
D = 1°54'41"
R = 2,997.60'
L = 100.00'
T = 50.00'

3M PI Sta. 150+19.94
PCC Sta. 149+69.94
PCC Sta. 150+69.94
Δ = 1°21'45"
D = 1°21'45"
R = 4,205.20'
L = 100.00'
T = 50.00'

3N PI Sta. 151+19.94
PCC Sta. 150+69.94
PT Sta. 151+69.94
Δ = 0°16'23"
D = 0°16'23"
R = 20,983.20'
L = 100.00'
T = 50.00'

Curve 4 SOUTHBOUND I-71

4A PI Sta. 134+21.34SB
PC Sta. 133+21.34SB
PCC Sta. 134+71.34SB
Δ = 0°18'01"
D = 0°18'01"
R = 18,080.93'
L = 100.00'
T = 50.00'

4B PI Sta. 135+21.34SB
PCC Sta. 134+71.34SB
PCC Sta. 135+71.34SB
Δ = 1°29'56"
D = 1°29'56"
R = 3,822.55'
L = 100.00'
T = 50.00'

4C PI Sta. 135+96.34SB
PCC Sta. 135+71.34SB
PCC Sta. 136+21.34SB
Δ = 1°00'48"
D = 2°01'36"
R = 2,827.10'
L = 50.00'
T = 25.00'

4D PI Sta. 137+99.59SB
PCC Sta. 136+21.34SB
PCC Sta. 139+77.27SB
Δ = 8°00'30"
D = 2°15'00"
R = 2,546.48'
L = 355.93'
T = 178.25'

4E PI Sta. 140+14.77SB
PCC Sta. 139+77.27SB
PCC Sta. 140+52.27SB
Δ = 1°51'24"
D = 2°28'32"
R = 2,314.46'
L = 75.00'
T = 37.50'

4F PI Sta. 140+89.78SB
PCC Sta. 140+52.27SB
PCC Sta. 141+27.27SB
Δ = 2°31'42"
D = 3°22'16"
R = 1,699.61'
L = 75.00'
T = 37.51'

4G PI Sta. 141+52.27SB
PCC Sta. 141+27.27SB
PCC Sta. 141+77.27SB
Δ = 1°52'41"
D = 3°45'22"
R = 1,525.40'
L = 50.00'
T = 25.00'

4H PI Sta. 142+02.27SB
PCC Sta. 141+77.27SB
PCC Sta. 142+27.27SB
Δ = 2°10'28"
D = 4°20'56"
R = 1,317.48'
L = 50.00'
T = 25.00'

Curve 5 NORTHBOUND I-71

5A PI Sta. 159+33.66
PCC Sta. 158+83.66
PCC Sta. 159+83.66
Δ = 0°15'01"
D = 0°15'01"
R = 22,892.88'
L = 100.00'
T = 50.00'

5B PI Sta. 160+33.66
PCC Sta. 159+83.66
PCC Sta. 160+83.66NB
Δ = 1°14'59"
D = 1°14'59"
R = 4,584.68'
L = 100.00'
T = 50.00'

5C PI Sta. 166+27.38NB
PCC Sta. 160+83.66NB
PT Sta. 171+63.85NB
Δ = 16°12'10"
D = 1°30'00"
R = 3,819.72'
L = 1,080.19'
T = 543.72'

5D PI Sta. 172+13.85NB
PCC Sta. 171+63.85NB
PCC Sta. 172+63.85NB
Δ = 1°14'59"
D = 1°14'59"
R = 4,584.68'
L = 100.00'
T = 50.00'

Curve 5 (Cont.)

5E PI Sta. 173+13.85NB
PCC Sta. 172+63.85SB
PT Sta. 173+63.85NB
Δ = 0°15'01"
D = 0°15'01"
R = 22,892.88'
L = 100.00'
T = 50.00'

Curve 6 SOUTHBOUND I-71

6A PI Sta. 169+73.58SB
PCC Sta. 166+12.27SB
PCC Sta. 173+31.09SB
Δ = 14°22'35"
D = 2°00'00"
R = 2,864.79'
L = 718.82'
T = 360.31'

6B PI Sta. 173+56.09SB
PCC Sta. 173+31.09SB
PCC Sta. 173+81.09SB
Δ = 0°54'00"
D = 1°48'00"
R = 3,183.10'
L = 50.00'
T = 25.00'

6C PI Sta. 174+31.09SB
PCC Sta. 173+81.09SB
PCC Sta. 171+81.09SB
Δ = 1°19'59"
D = 1°19'59"
R = 4,289.08'
L = 100.00'
T = 50.00'

6D PI Sta. 175+31.09SB
PCC Sta. 174+81.09SB
PT Sta. 175+81.09SB
Δ = 0°16'01"
D = 0°16'01"
R = 21,463.56'
L = 100.00'
T = 50.00'

Curve 7 NORTHBOUND I-71

7 PI Sta. 187+35.63NB
PC Sta. 182+78.83NB
PT Sta. 191+90.50NB
Δ = 9°07'00"
D = 1°00'00"
R = 5,729.58'
L = 911.67'
T = 456.80'

Curve 8 SOUTHBOUND I-71

8A PI Sta. 180+27.67SB
PCC Sta. 179+77.67SB
PCC Sta. 180+77.67SB
Δ = 0°09'58"
D = 0°09'58"
R = 34,492.45'
L = 100.00'
T = 50.00'

8B PI Sta. 181+27.67SB
PCC Sta. 180+77.67SB
PCC Sta. 181+77.67SB
Δ = 0°50'08"
D = 0°50'08"
R = 6,857.21'
L = 100.00'
T = 50.00'

8C PI Sta. 182+27.67SB
PCC Sta. 181+77.67SB
PCC Sta. 182+77.67SB
Δ = 1°09'48"
D = 1°09'48"
R = 4,925.14'
L = 100.00'
T = 50.00'

8D PI Sta. 183+27.67SB
PCC Sta. 182+77.67SB
PCC Sta. 183+77.67SB
Δ = 1°50'06"
D = 1°50'06"
R = 3,122.39'
L = 100.00'
T = 50.00'

8E PI Sta. 187+42.12SB
PCC Sta. 183+77.67SB
PCC Sta. 191+02.67SB
Δ = 14°30'00"
D = 2°00'00"
R = 2,864.79'
L = 725.00'
T = 364.45'

Curve 8 (Cont.)

8F PI Sta. 191+52.67SB
PCC Sta. 191+02.67SB
PCC Sta. 192+02.67SB
Δ = 1°50'06"
D = 1°50'06"
R = 3,122.39'
L = 100.00'
T = 50.00'

8G PI Sta. 192+52.67SB
PCC Sta. 192+02.67SB
PCC Sta. 193+02.67SB
Δ = 1°09'48"
D = 1°09'48"
R = 4,925.14'
L = 100.00'
T = 50.00'

8H PI Sta. 193+52.67SB
PCC Sta. 193+02.67SB
PCC Sta. 194+02.67SB
Δ = 0°50'08"
D = 0°50'08"
R = 6,857.21'
L = 100.00'
T = 50.00'

8J PI Sta. 194+52.67SB
PCC Sta. 192+02.67SB
PCC Sta. 193+02.67SB
Δ = 0°09'58"
D = 0°09'58"
R = 34,492.45'
L = 100.00'
T = 50.00'

Curve 9 NORTHBOUND I-71

9A PI Sta. 199+87.43NB
PC Sta. 199+37.43NB
PCC Sta. 200+37.43NB
Δ = 0°07'59"
D = 0°07'59"
R = 43,061.42'
L = 100.00'
T = 50.00'

9B PI Sta. 200+87.43NB
PCC Sta. 200+37.43NB
PCC Sta. 201+37.43NB
Δ = 0°40'00"
D = 0°40'00"
R = 8,594.37'
L = 100.00'
T = 50.00'

9C PI Sta. 201+87.43NB
PCC Sta. 201+37.43NB
PCC Sta. 202+37.43NB
Δ = 0°56'04"
D = 0°56'04"
R = 6,131.54'
L = 100.00'
T = 50.00'

9D PI Sta. 202+87.43NB
PCC Sta. 200+37.43NB
PCC Sta. 203+37.43NB
Δ = 1°27'51"
D = 1°27'51"
R = 3,913.20'
L = 100.00'
T = 50.00'

9E PI Sta. 203+62.43NB
PCC Sta. 203+37.43NB
PCC Sta. 202+87.43NB
Δ = 0°50'14"
D = 1°40'28"
R = 3,421.78'
L = 50.00'
T = 25.00'

9F PI Sta. 204+12.43NB
PCC Sta. 203+87.43NB
PCC Sta. 204+37.43NB
Δ = 0°57'52"
D = 1°55'44"
R = 2,970.40'
L = 50.00'
T = 25.00'

9G PI Sta. 205+26.63NB
PCC Sta. 204+37.43NB
PCC Sta. 206+15.76NB
Δ = 3°34'00"
D = 2°00'00"
R = 2,864.79'
L = 178.33'
T = 89.20'

9H PI Sta. 206+40.76NB
PCC Sta. 206+15.76NB
PCC Sta. 206+65.76NB
Δ = 0°57'52"
D = 1°55'44"
R = 2,970.40'
L = 50.00'
T = 25.00'

Curve 9 (Cont.)

9J PI Sta. 206+90.76NB
PCC Sta. 206+65.76NB
PCC Sta. 207+15.76NB
Δ = 0°50'14"
D = 1°40'28"
R = 3,421.78'
L = 50.00'
T = 25.00'

9K PI Sta. 207+65.76NB
PCC Sta. 207+15.76NB
PCC Sta. 208+15.76NB
Δ = 1°27'51"
D = 1°27'51"
R = 3,913.20'
L = 100.00'
T = 50.00'

9L PI Sta. 208+65.76NB
PCC Sta. 208+15.76NB
PCC Sta. 209+15.76NB
Δ = 0°56'04"
D = 0°56'04"
R = 6,131.54'
L = 100.00'
T = 50.00'

9M PI Sta. 209+65.76NB
PCC Sta. 209+15.76NB
PCC Sta. 210+15.76NB
Δ = 0°40'00"
D = 0°40'00"
R = 8,594.37'
L = 100.00'
T = 50.00'

9N PI Sta. 210+65.76NB
PCC Sta. 210+15.76NB
PCC Sta. 211+15.76NB
Δ = 0°07'59"
D = 0°07'59"
R = 43,061.42'
L = 100.00'
T = 50.00'

Curve 10 SOUTHBOUND I-71

10A PI Sta. 198+14.55SB
PC Sta. 197+64.55SB
PCC Sta. 198+64.55SB
Δ = 0°07'59"
D = 0°07'59"
R = 43,061.42'
L = 100.00'
T = 50.00'

10B PI Sta. 199+14.55SB
PCC Sta. 198+64.55SB
PCC Sta. 199+64.55SB
Δ = 0°40'00"
D = 0°40'00"
R = 8,594.37'
L = 100.00'
T = 50.00'

10C PI Sta. 200+14.55SB
PCC Sta. 199+64.55SB
PCC Sta. 200+64.55SB
Δ = 0°56'04"
D = 0°56'04"
R = 6,131.54'
L = 100.00'
T = 50.00'

10D PI Sta. 201+14.55SB
PCC Sta. 200+64.55SB
PCC Sta. 201+64.55SB
Δ = 1°27'51"
D = 1°27'51"
R = 3,913.20'
L = 100.00'
T = 50.00'

10E PI Sta. 201+89.55SB
PCC Sta. 201+64.55SB
PCC Sta. 202+14.55SB
Δ = 0°50'14"
D = 1°40'28"
R = 3,421.78'
L = 50.00'
T = 25.00'

10F PI Sta. 202+39.55SB
PCC Sta. 202+14.55SB
PCC Sta. 202+64.55SB
Δ = 0°57'52"
D = 1°55'44"
R = 2,970.40'
L = 50.00'
T = 25.00'

10G PI Sta. 205+11.34SB
PCC Sta. 202+64.55SB
PCC Sta. 207+56.91SB
Δ = 9°50'50"
D = 2°00'00"
R = 2,864.79'
L = 492.36'
T = 246.79'

Curve 10 (Cont.)

10H PI Sta. 207+81.91SB
PCC Sta. 207+56.91SB
PCC Sta. 208+06.91SB
Δ = 0°57'52"
D = 1°55'44"
R = 2,970.40'
L = 50.00'
T = 25.00'

10J PI Sta. 208+31.91SB
PCC Sta. 208+06.91SB
PCC Sta. 208+56.91SB
Δ = 0°50'14"
D = 1°40'28"
R = 3,421.78'
L = 50.00'
T = 25.00'

10K PI Sta. 209+06.91SB
PCC Sta. 208+56.91SB
PCC Sta. 209+56.91SB
Δ = 1°27'51"
D = 1°27'51"
R = 3,913.20'
L = 100.00'
T = 50.00'

10L PI Sta. 210+06.91SB
PCC Sta. 209+56.91SB
PCC Sta. 210+56.91SB
Δ = 0°56'04"
D = 0°56'04"
R = 6,131.54'
L = 100.00'
T = 50.00'

10M PI Sta. 211+06.91SB
PC Sta. 210+56.91SB
PCC Sta. 211+56.91SB
Δ = 0°40'00"
D = 0°40'00"
R = 8,594.37'
L = 100.00'
T = 50.00'

10N PI Sta. 212+06.91SB
PCC Sta. 211+56.91SB
PT Sta. 212+56.91SB
Δ = 0°07'59"
D = 0°07'59"
R = 43,061.42'
L = 100.00'
T = 50.00'

NOTE: See Sheet 2 For Project Description

CURVE DATA

SCHEMATIC PLAN - SECTION 1

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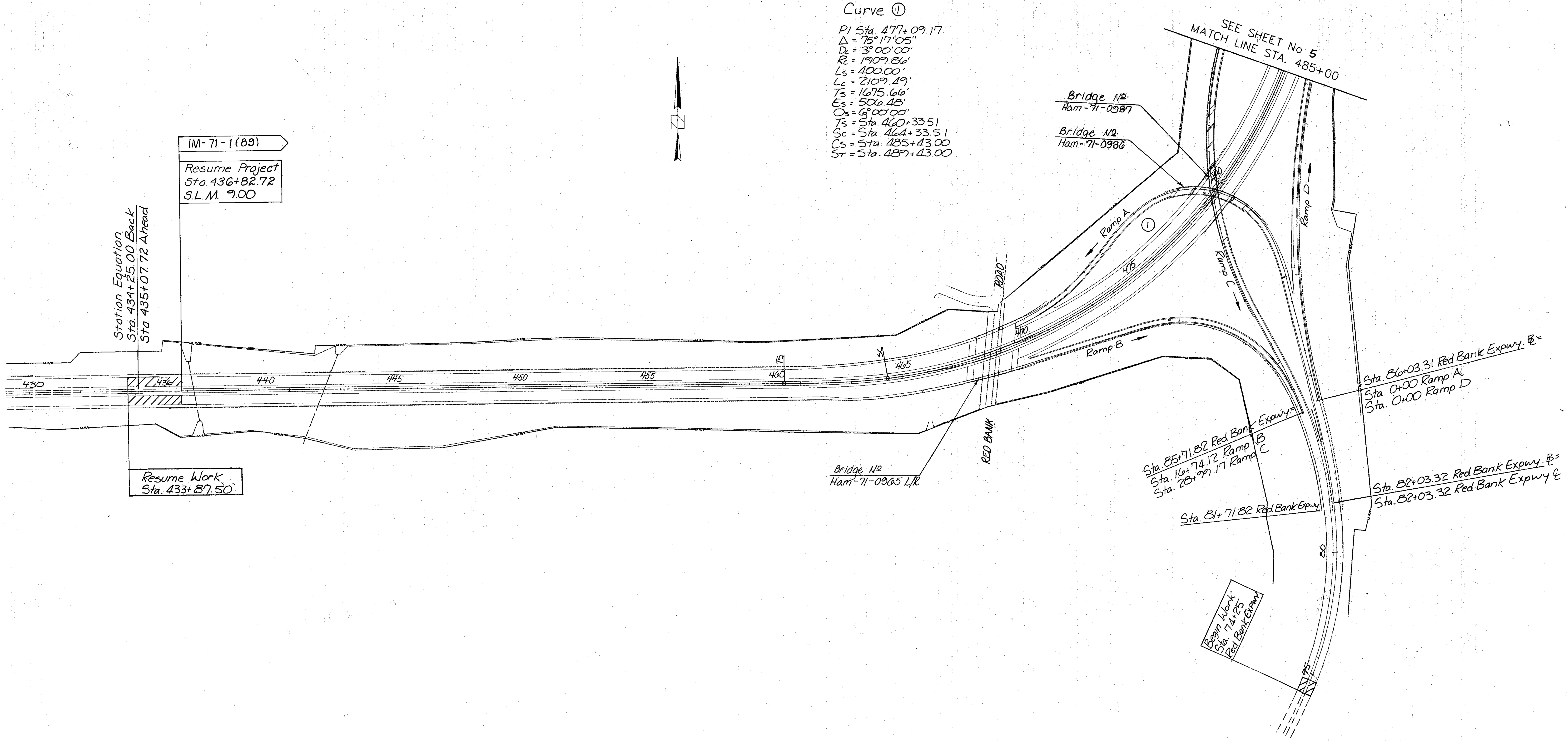
F.H.W.A. REGION	STATE	PROJECT	OLB 9-23-92 PWP 9-2-94
5	OHIO		

4/401

HAM-71-1.30/9.00

SECTION 2
SCHEMATIC PLAN

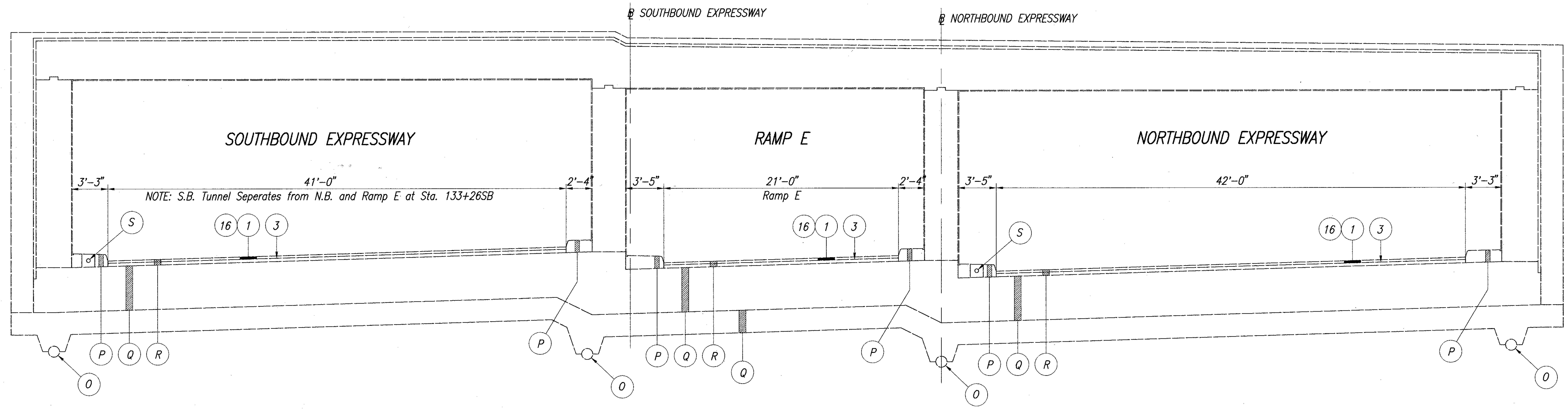
200 0 200 400 600
GRAPHIC SCALE IN FEET



Note: See Sheet 2 for Project Description

SCHEMATIC PLAN- SECTION 2

TYPICAL SECTIONS
TYPE 446



SOUTHBOUND EXPRESSWAY
Sta. 125+40.00 to Sta. 133+56.00 = 816.00 Lin. Ft.

LYTLE PARK TUNNEL

NORTHBOUND EXPRESSWAY
Sta. 127+10.00 to Sta. 135+64.00 = 854.00 Lin. Ft.

ITEM LEGEND

1 Item 446 1 1/4" Asphalt Concrete Surface Course, Type 1, AC-20
2 Item 446 3" Asphalt Concrete Intermediate Course, Type 2, AC-20
3 Item 407 Tack Coat
4 Item 446 1 3/4" Asphalt Concrete Intermediate Course, Type 2, AC-20
5 Item 301 Bituminous Aggregate Base, AC-20, Variable Depth
6 Item 622 Concrete Barrier, Type A
7 Item 622 Concrete Barrier, Type D, As Per Plan
8 Item 606 Guardrail, Type 5
9 Item 622 Concrete Barrier, Type D, As Per Plan B
10 Item 203 Excavation Not Including Embankment Construction
11 Item 659 Seeding and Mulching
12 Item 202 Guardrail Removed
13 Item 202 Curb Removed
14 Item 202 Concrete Median Removed
15 Item 622 Concrete Barrier, Type D50
16 Item 254 Pavement Planing, Bituminous
17 Item 254 Pavement Planing, Portland Cement Concrete
18 Item 622 Concrete Barrier, Type D
19 Item 605 Shallow Underdrain, As Per Plan, (See Plan Sheets For Limits)
20 Item 605 6" Shallow Pipe Underdrain, As Per Plan, (See Plan Sheets For Limits)

21 Item 622 Concrete Barrier, Type A, As Per Plan
22 Item 622 Concrete Barrier, Type B50, As Per Plan
23 Item 622 Concrete Barrier, Type B50
24 Item 446 1 1/2" Asphalt Concrete Surface Course, Type 1, AC-20
25 Item 446 2 1/2" Asphalt Concrete Intermediate Course, Type 2, AC-20
26 Item 301 9" Bituminous Aggregate Base, AC-20
27 Item 408 Bituminous Prime Coat
28 Item 304 9" Aggregate Base, As Per Plan
29 Item 202 Pavement Removed
30 Item 609 Curb, Type 6
31 Item 301 6" Bituminous Aggregate Base, AC-20
32 Item 601 Concrete Slope Protection
33 Item 304 Aggregate Base, As Per Plan (Variable Depth)
34 Item 202 Curb Removed, As Per Plan A (See Detail on Sheet 20)
35 Item 203 Subgrade Compaction
36 Item 601 Riprap Using 6" Reinforced Concrete Slab, As Per Plan
37 Item 202 Concrete Slope Protection Removed
38 Item 612 Concrete Median, As Per Plan
39 Item 518 Porous Backfill, 518.02
40 Item 202 Concrete Median Removed, As Per Plan

41 Item 202 Curb Removed, As Per Plan B (See Detail on Sheet 20)
42 Item 202 Approach Slab Removed
43 Item 202 Approach Slab Removed, As Per Plan (See Detail on Sheet 18 & 21)
44 Item 611 Reinforced Concrete Approach Slab (T=17"), As Per Plan (See Sheets 19, 21, & 24B)
45 Item 611 Reinforced Concrete Approach Slab (T=15"), As Per Plan (See Sheet 18)
46 Item 611 Reinforced Concrete Approach Slab (Variable Thickness) (See Detail on Sheet 18 & 19)
47 Item 202 Guardrail Removed, Barrier Design
48 Item 609 Combination Curb and Gutter, Type 2, As Per Plan (See Detail on Sheet 24B)
49 Item 203 Embankment
50 Item 622 Concrete Barrier, Type D, As Per Plan C (See Detail on Sheet 24C)
51 Item 452 6" Plain Concrete Pavement
52 Item 452 4" Plain Concrete Pavement
53 Item 622 Concrete Barrier, Type B50, As Per Plan B
54 Item 622 Concrete Barrier, Type B50, As Per Plan A
55 Item 622 Concrete Barrier, Type D50, As Per Plan (See Sheet 21)
56 Item 622 Concrete Barrier, Type B, As Per Plan B (See Sheets 18 & 19)
57 Item 625 Conduit, Concrete Encased, As Per Plan, Size: 4" (See Detail Sheet 28C)

A Existing 10" Reinforced Portland Cement Concrete Pavement
B Existing Subbase, Grading "A" or "B" (Except as Noted.)
C Existing Bituminous Aggregate Base
D Existing Aggregate Base
E Existing Subbase
F Existing Drainage Connection Aggregate
G Existing 6" Underdrain
H Existing Concrete Curb Type 6
I Existing Concrete Curb Type 7A
J Existing Concrete Curb Type 7B
K Existing Concrete Median
L Existing Guardrail Barrier Design
M Existing Guardrail
N Existing Concrete Median Pavement
O Existing 12" Underdrain
P Existing Curb
Q Existing Concrete Pavement
R Existing 1-1/4" 404 Asphalt Concrete on 1-3/4" 402 Asphalt Concrete
S Existing 4" Dry Fire Protection Pipe
T Existing Concrete Slope Protection

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F.H.W.A. REGION 5
STATE OHIO
PROJECT
7
401
HAM-71-1.30/9.00
TYPICAL SECTIONS
TYPE 446
EXISTING RETAINING WALL 10 & 11
See Detail "A" Sht. 8
Match Existing
Profile Grade
S.B. Exp. ℄
Varies 12.9' to 14'
℄ Exp.
Varies - See Plans
(FDRP)
(FDPR)
SEE BARRIER DETAIL ON SHEET 24A, FOR TYPE OF BARRIER AND LIMITS.
SOUTHBOUND
STA. 133+56.00 to STA. 136+07.05 = 251.05 Lin. Ft. (FDPR & FDSR)
STA. 136+07.05 to STA. 137+44.55 = 137.50 Lin. Ft. (FDPR & FDSR)
STA: 137+44.55 to STA. 150+21.72 = (Bridge & Appr. Slabs)
(HAM-71-0154)
Note: Equation STA. 142+27.27 S BK = STA. 144+15.68 AHD
MEDIAN CONSTRUCTION
STA. 133+56 SB to STA. 134+96.5 SB
(FDSR)
NORTHBOUND
STA. 135+64.00 to STA. 137+95.85 = 231.85 Lin. Ft.
STA. 137+95.85 to STA. 139+33.35 = 137.50 Lin. Ft.
(FDPR & FDSR)
STA. 139+33.25 to STA. 150+21.72 (Bridge & Appr. Slabs)
(HAM-71-0154)
(FDSR)
FOR LEGEND SEE SHEET 6
NOTE: FDPR - Full Depth Pavement Replacement
FDSR - Full Depth Shoulder Replacement
** - Match Exist. Cross Slope
● - INDICATES 1/4" DROP
EXISTING RETAINING WALL 12 & 15
Macth Existing
SOUTHBOUND
STA. 150+21.72 to STA. 151+59.22 = 137.50 Lin. Ft. (FDPR & FDSR)
STA. 151+59.22 to STA. 159+78.29 = 169.07 Lin. Ft.
STA. 157+78.29 to STA. 159+15.79 = 137.50 Lin. Ft. (FDPR & FDSR)
STA. 159+15.79 to STA. 162+71.24 = (Bridge & Appr. Slabs)
(HAM-71-0192)
NORTHBOUND
STA. 150+21.72 to STA. 151+59.22 = 137.50 Lin Ft. (FDPR & FDSR)
STA. 151+59.22 to STA. 157+78.29 = 619.07 Lin. Ft.
STA. 157+78.29 to STA. 159+15.79 = 137.50 Lin. Ft. (FDPR & FDSR)
STA. 159+15.79 to STA. 162+71.24 = (Bridge & Appr. Slabs)
(HAM-71-0192)
See Plan Shts. For Limits
N.B. I-471
STA. 155+11.79 to STA. 157+30.44 = 218.65 Lin. Ft.
SHOULDER CONSTRUCTION
NORTHBOUND 471
STA. 151+00 N to STA. 155+11.79 N
Varies Sta. 162+71.24 to Sta. 169+84.00
℄ S.B. Exp.
℄ N.B. Exp.
See Plan Sht. For Limits
At Concrete Barriers Only
SOUTHBOUND
STA. 162+71.24 to STA. 164+08.74 = 137.50 Lin. Ft. (FDPR & FDSR)
STA. 164+08.74 to STA. 171+02.34 = 693.60 Lin. Ft.
Note: Equation STA. 166+12.27 = STA. 166+12.27 N.B. (Ahead)
STA. 166+12.27 S.B. (Ahead)
NORTHBOUND
STA. 162+71.24 to STA. 164+08.74 = 137.50 Lin. Ft. (FDPR & FDSR)
STA. 164+08.74 to STA. 170+55.00 = 646.26 Lin Ft.
See N.B. I-471 Section Sht. 9
STA. 158+35.00 to ABUTMENT
MEDIA RESOURCES CORP.
TYPICAL SECTIONS - SECTION 1

TYPICAL SECTIONS
TYPE 446

NOTE:
FDPR: FULL DEPTH PAVEMENT REPLACEMENT.
FDSR: FULL DEPTH SHOULDER REPLACEMENT.
**: INDICATES TO MATCH EXISTING CROSS SLOPE
⬢ : INDICATES 1/2" DROP

FOR LEGEND SEE SHEET 6

TYPICAL SECTIONS
TYPE 446

F.H.W.A. REGION	STATE	PROJECT		
5	OHIO		DLB 9-23-92 PWP 8-4-94	9/401

HAM-71-1.30/9.00

MEDIA RESOURCES CORP.

TYPICAL SECTIONS
TYPE 446

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		OCB 9-23-92 PVP 8-3-94

10/401

HAM-71-1.30/9.00

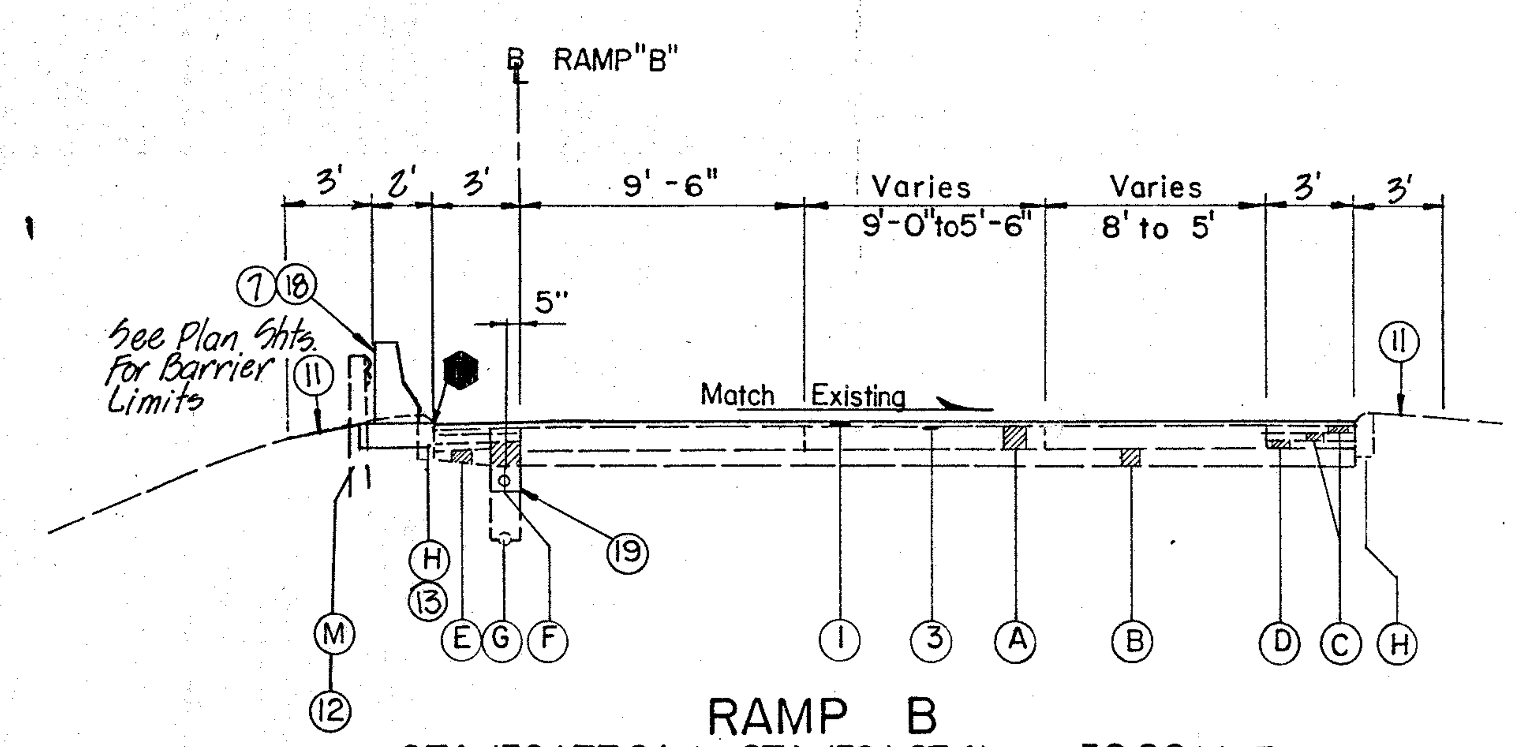
NOTE:
FDPR - FULL DEPTH PAVEMENT REPLACEMENT
FDSR - FULL DEPTH SHOULDER REPLACEMENT
** - INDICATES TO MATCH EXISTING SLOPE
⬢ - INDICATES 1/4" DROP
FOR LEGEND SEE SHEET 6

MEDIA RESOURCES CORP.

TYPICAL SECTIONS
TYPE 446

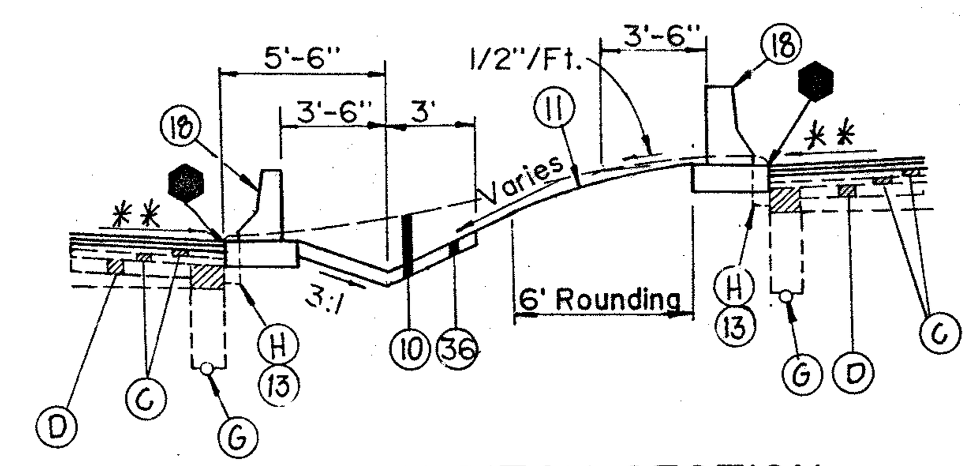
SOUTHBOUND
STA. 207+56.91 to STA. 215+00 = 743.09 Lin. Ft.

NORTHBOUND
STA. 206+15.76 to STA. 215+00 = 884.24 Lin. Ft.

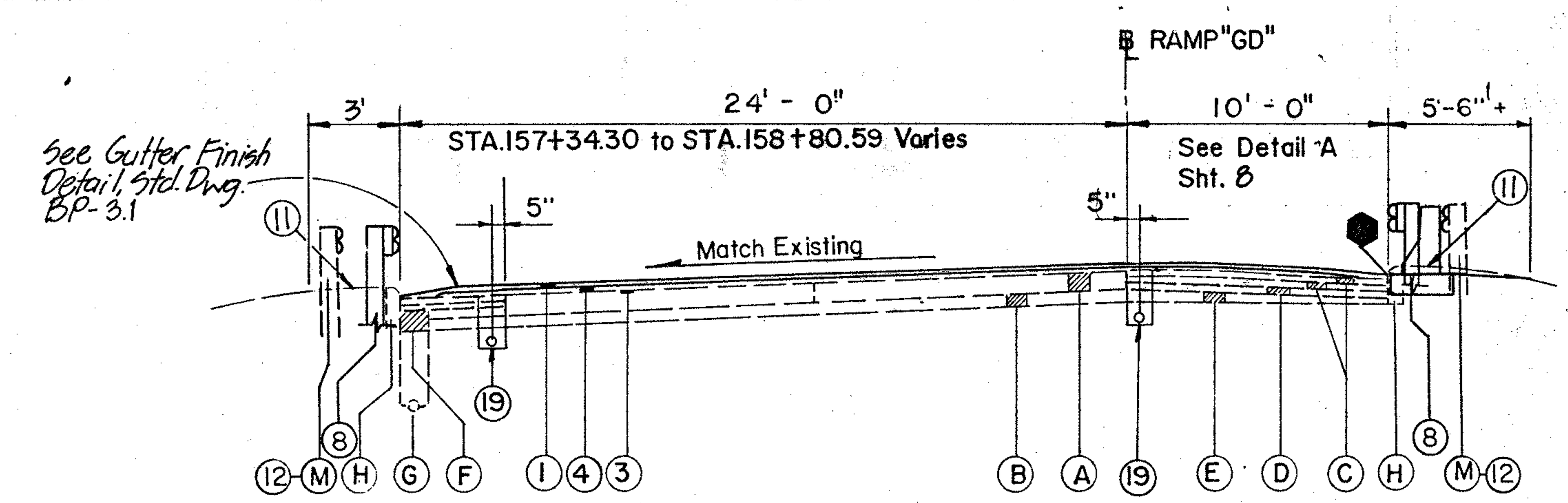


RAMP B
STA. 138+77.21 to STA. 139+07.41 = 30.20 Lin. Ft
STA. 139+07.41 to STA. 149+96.75 Included in HAM-71-0154

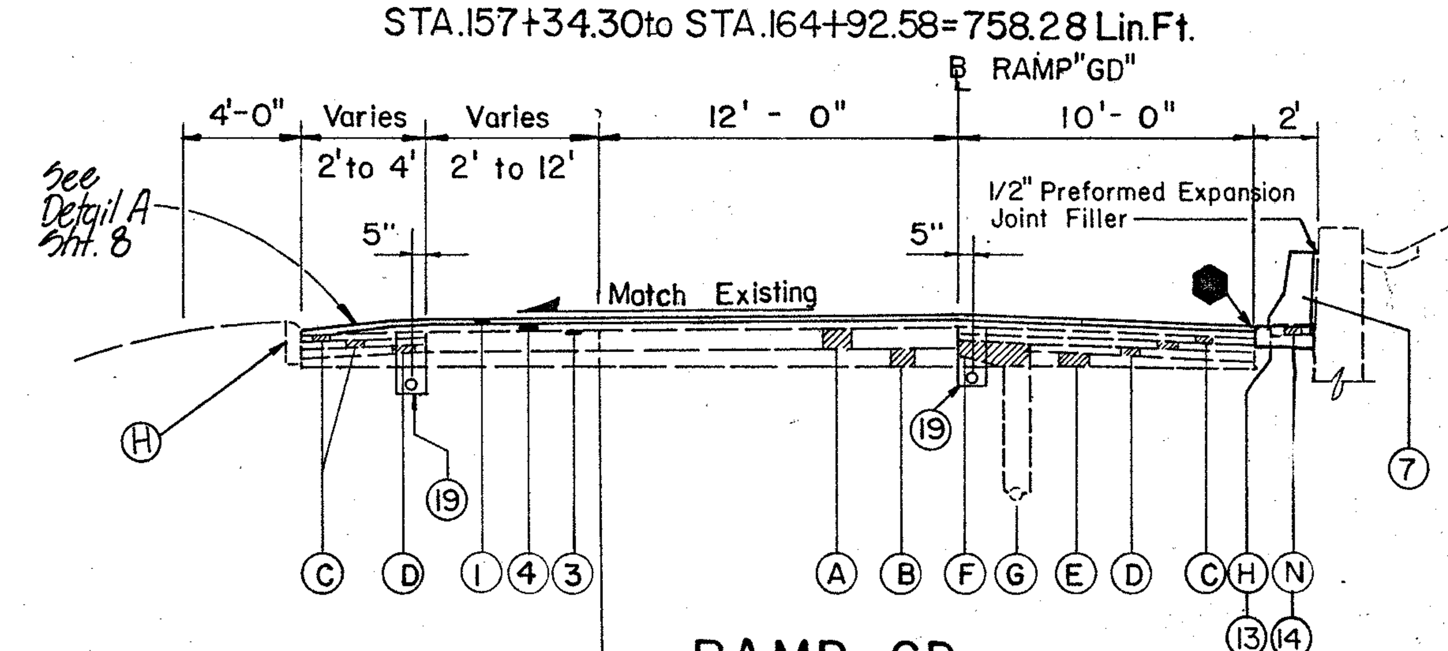
MEDIAN DITCH SECTION



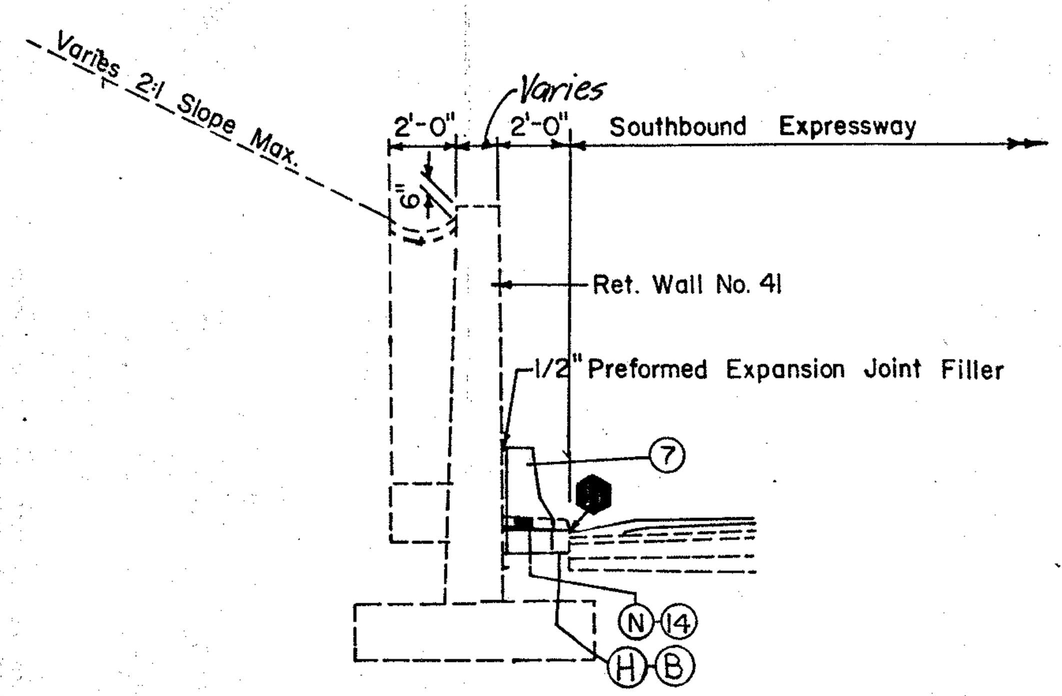
MEDIAN DITCH SECTION
STA. 172+90 NB to STA 173+60 NB



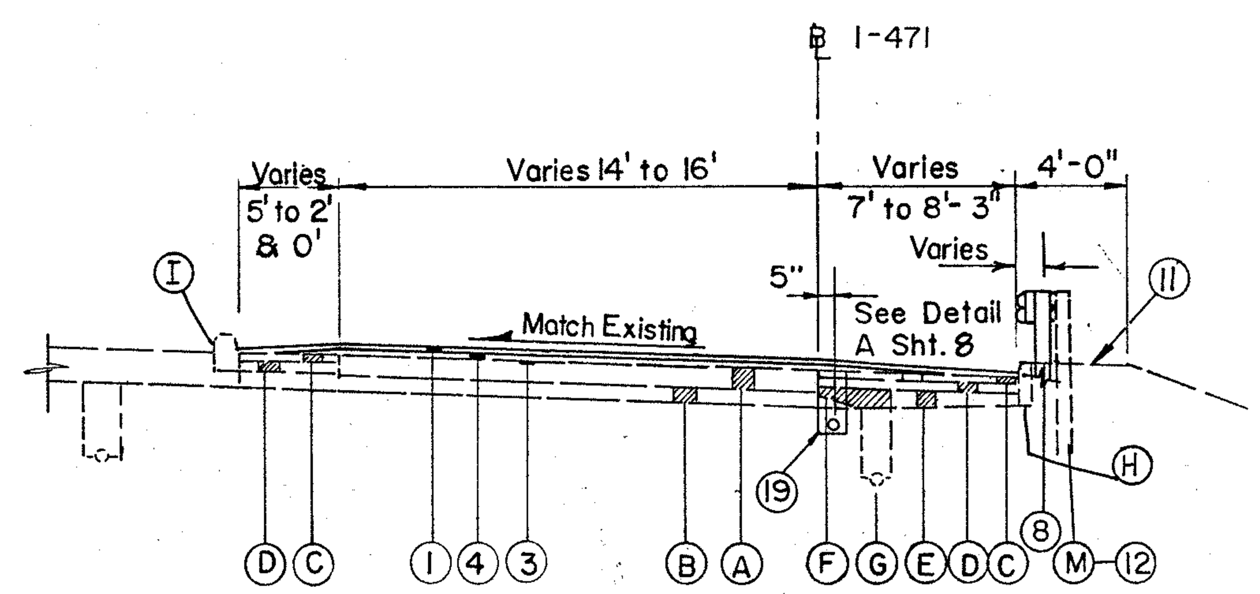
RAMP GD
STA. 157+34.30 to STA. 164+92.58 = 758.28 Lin. Ft.



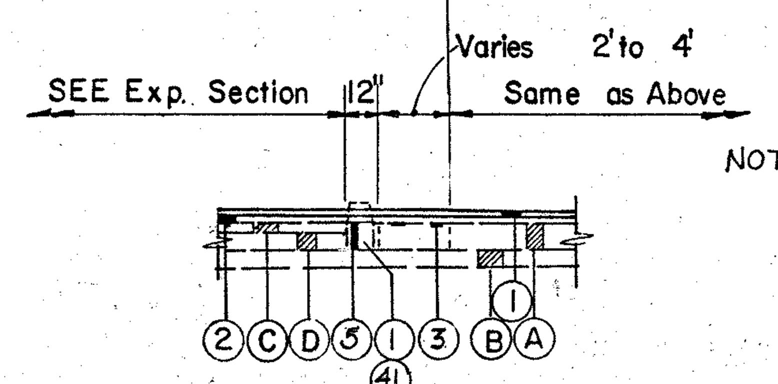
RAMP GD
STA. 164+92.58 to STA. 169+53.00 = 460.42 Lin. Ft.



RETAINING WALL SECTION ALONG SYMMES ST.
STA. 205+59.14 SB to STA. 212+56.91 NB



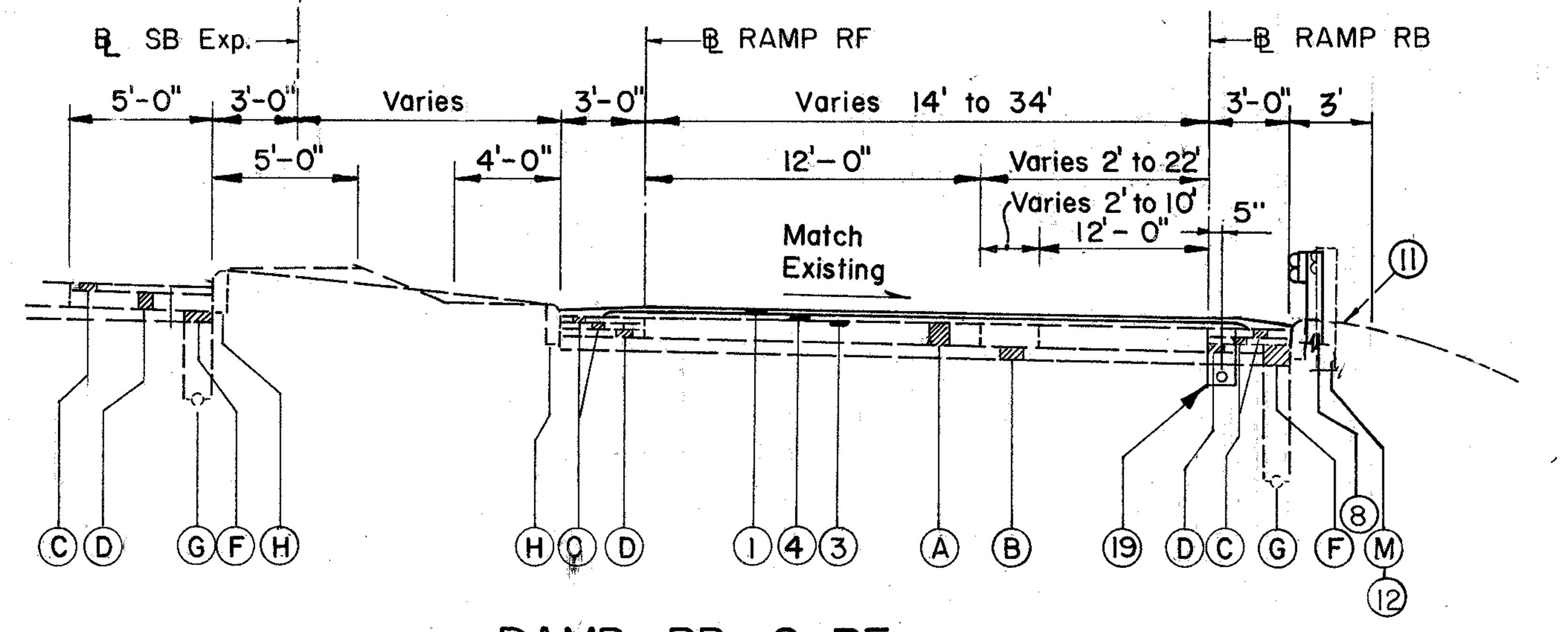
NORTHBOUND I-471
STA. 159+85.00 to STA. 160+43.15 = 58.15 Lin. Ft.
STA. 160+43.15 to STA. 163+44.00 Included in HAM-71-0192



STA. 169+53.00 to STA. 170+50.07 = 97.07 Lin. Ft.

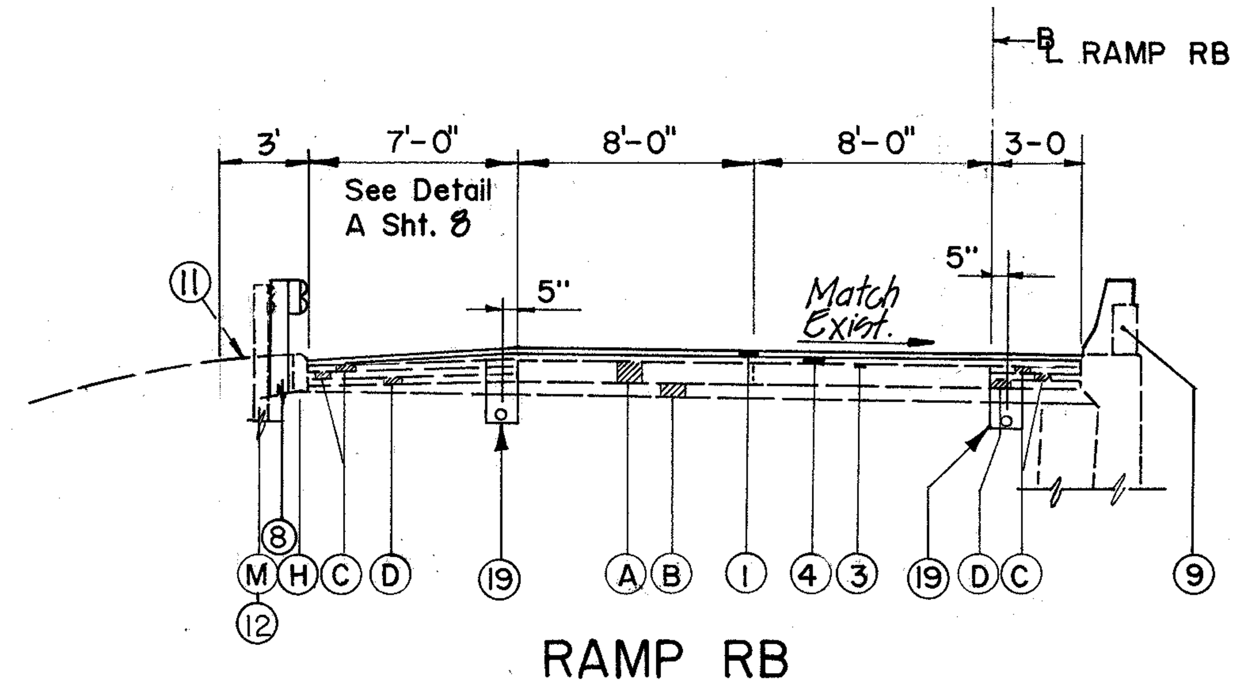
NOTE:
** INDICATES TO MATCH EXISTING SLOPE
● INDICATES 1/4" DROP
FOR LEGEND SEE SHEET 6

TYPICAL SECTIONS
TYPE 446



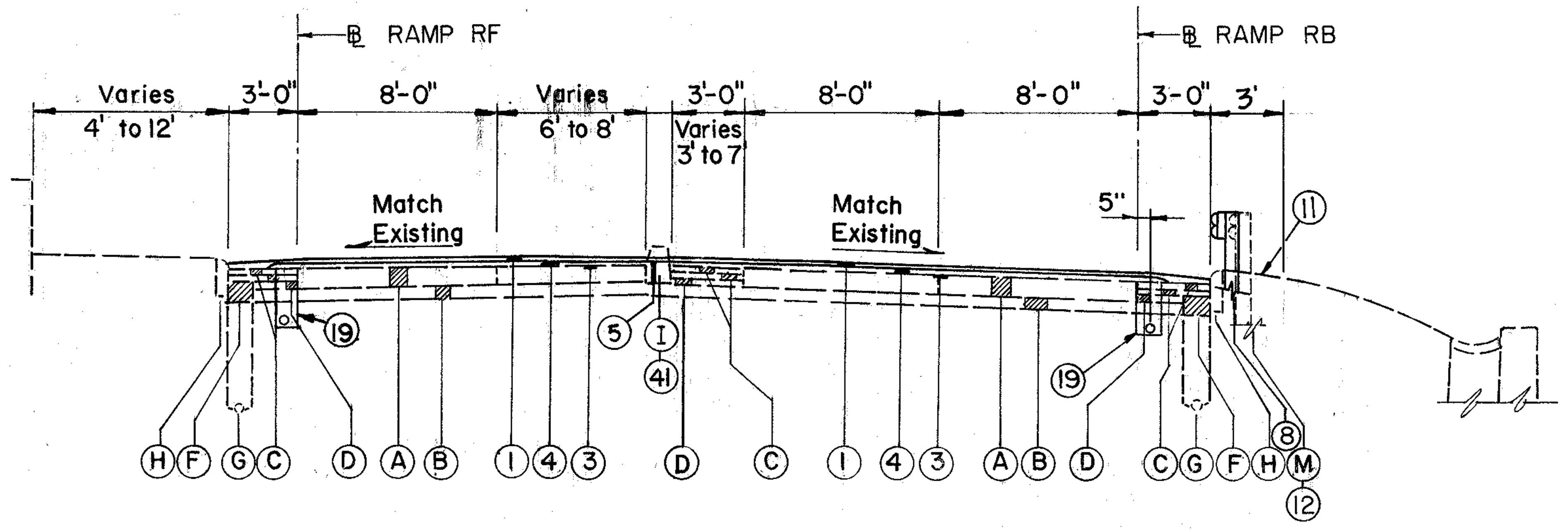
RAMP RB & RF

ST. STA. 181+98.00 RB to STA. 186+95.66 RB = 497.66 Lin. Ft.



RAMP RB

STA. 192+21.25 to STA. 193+83.00 = 161.75 Lin. Ft.

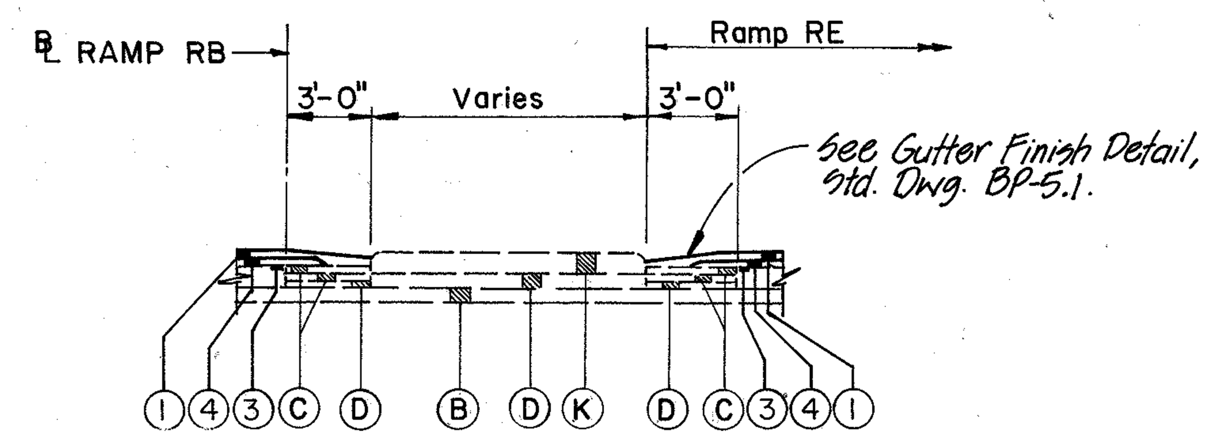


RAMP RF

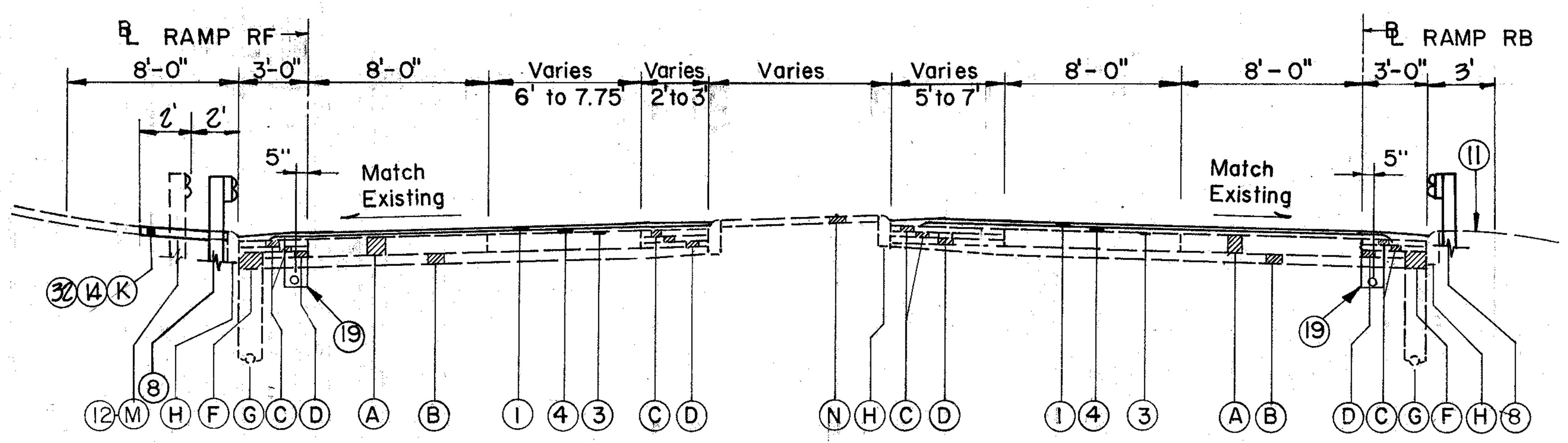
STA. 186+96.78 RF to STA. 187+96.78 RF = 100.00 Lin. Ft.

RAMP RB

STA. 186+95.66 RB to STA. 187+95.66 RB = 100.00 Lin. Ft.



STA. 193+18.00 RB to STA. 193+83.00 RB = 65 Lin. Ft.

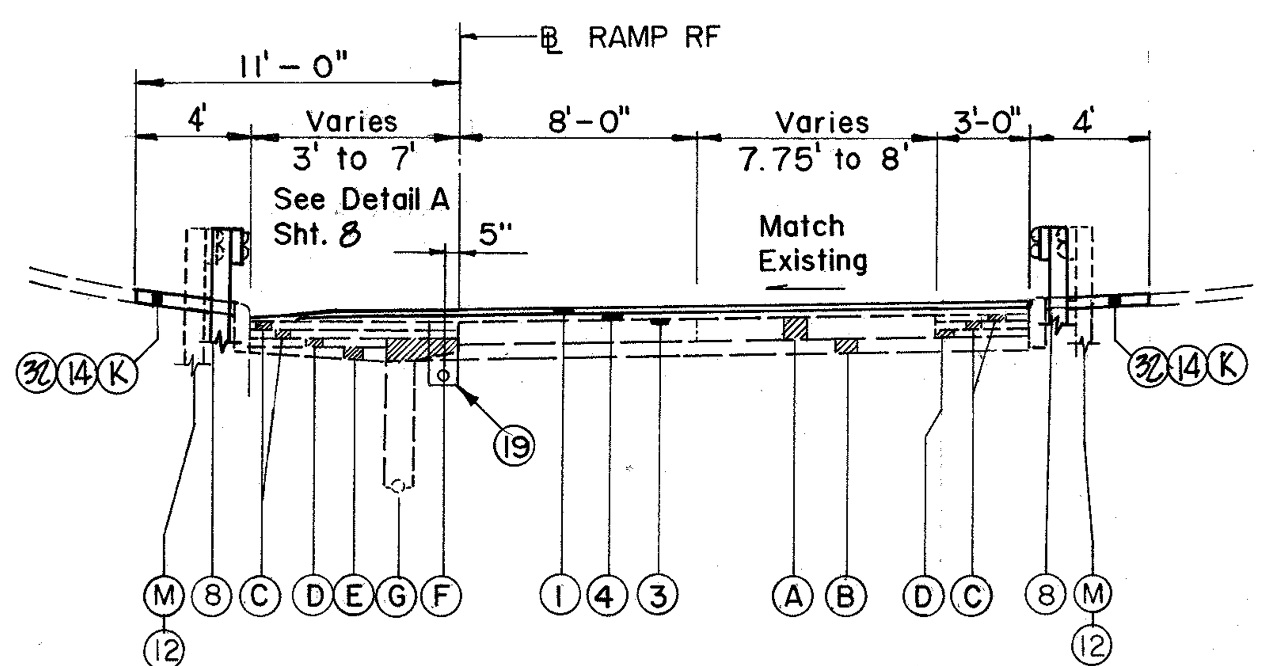


RAMP RF

STA. 187+96.78 RF to STA. 188+96.78 RF = 100.00 Lin. Ft.

RAMP RB

STA. 187+95.66 RB to STA. 188+26.19 RB = 30.53 Lin. Ft.
STA. 188+26.19 RB to STA. 192+21.25 RB Included in HAM-42-0257R

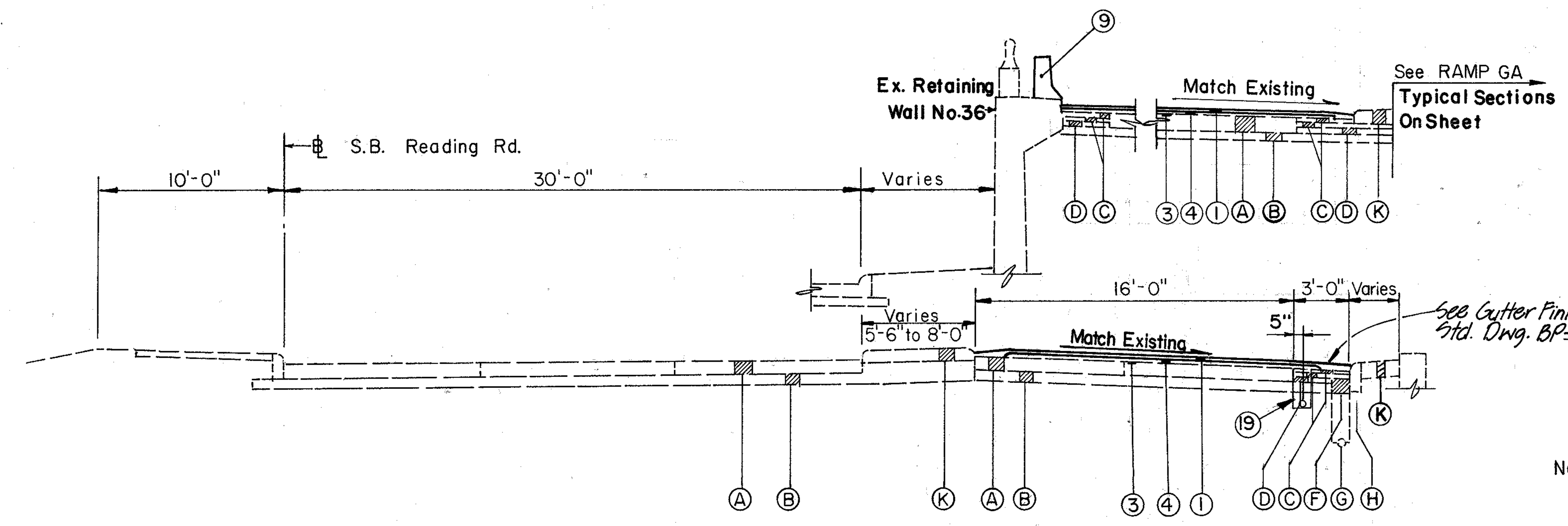


RAMP RF

STA. 188+96.78 to STA. 193+83.00 = 486.22 Lin. Ft.

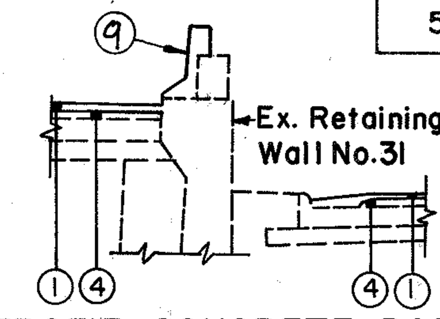
NOTE: For Legend, See Sheet 6

TYPICAL SECTIONS
TYPE 446

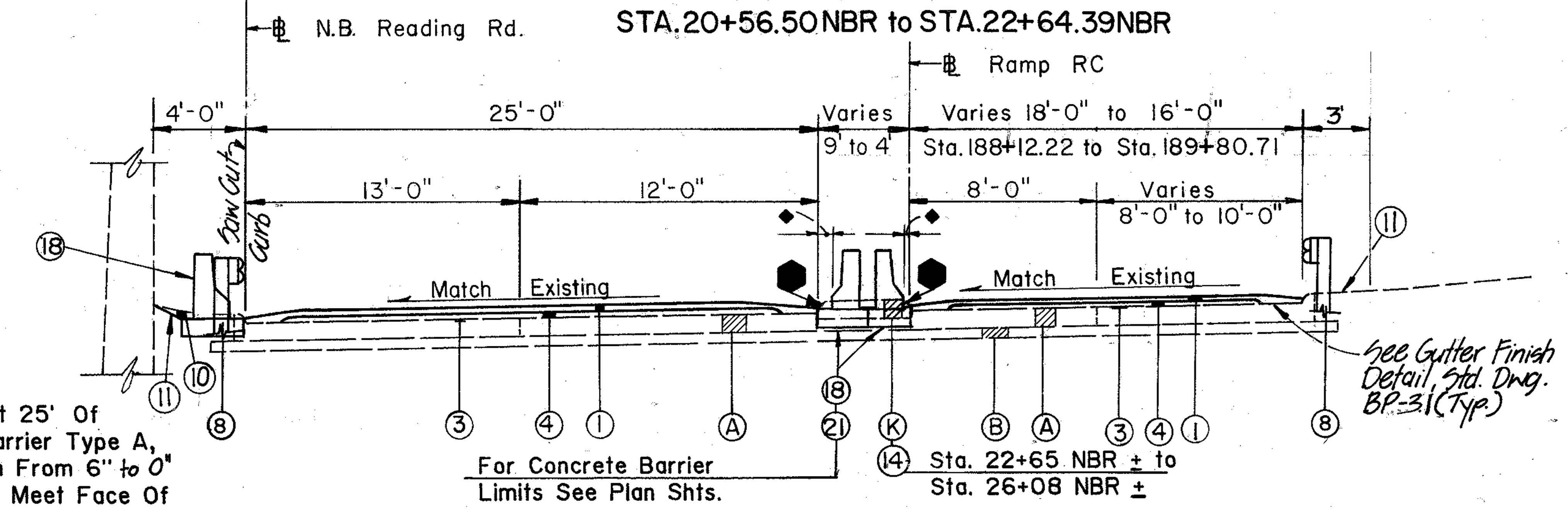


SOUTHBOUND READING RD.
STA. 22+96.85 to STA. 30+35=738.15 Lin. Ft.
STA. Equation: STA. 30 35 S.B. Reading Rd. = STA. 32 04 N.B. Reading Rd.

RAMP RA
STA. 185+99 to STA. 189+85=386 Lin. Ft.



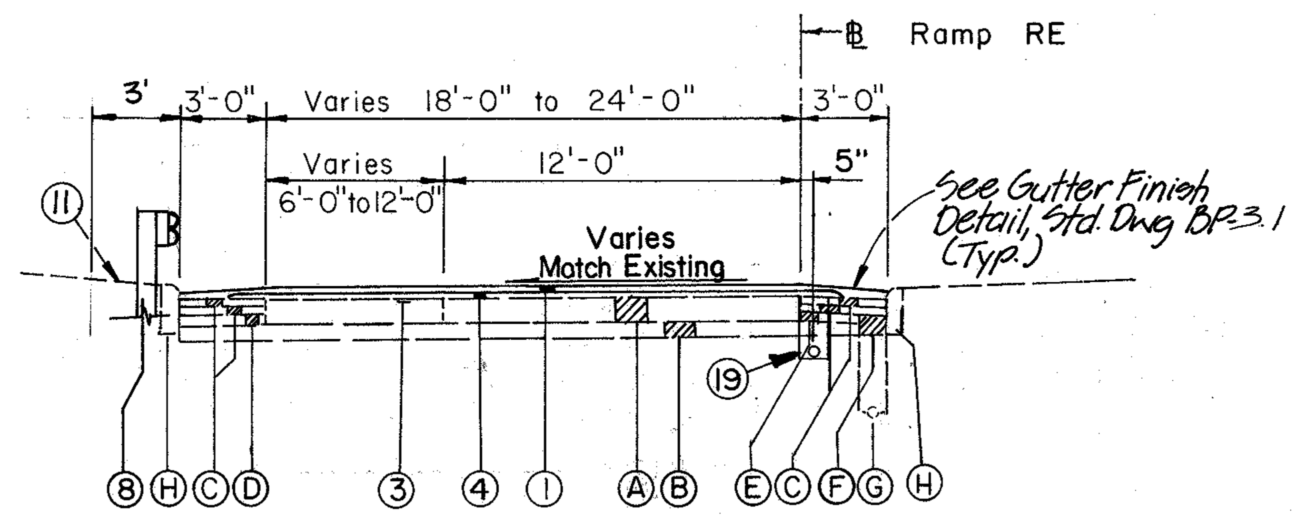
RETROFIT CONCRETE BARRIER
STA. 20+56.50NBR to STA. 22+64.39NBR



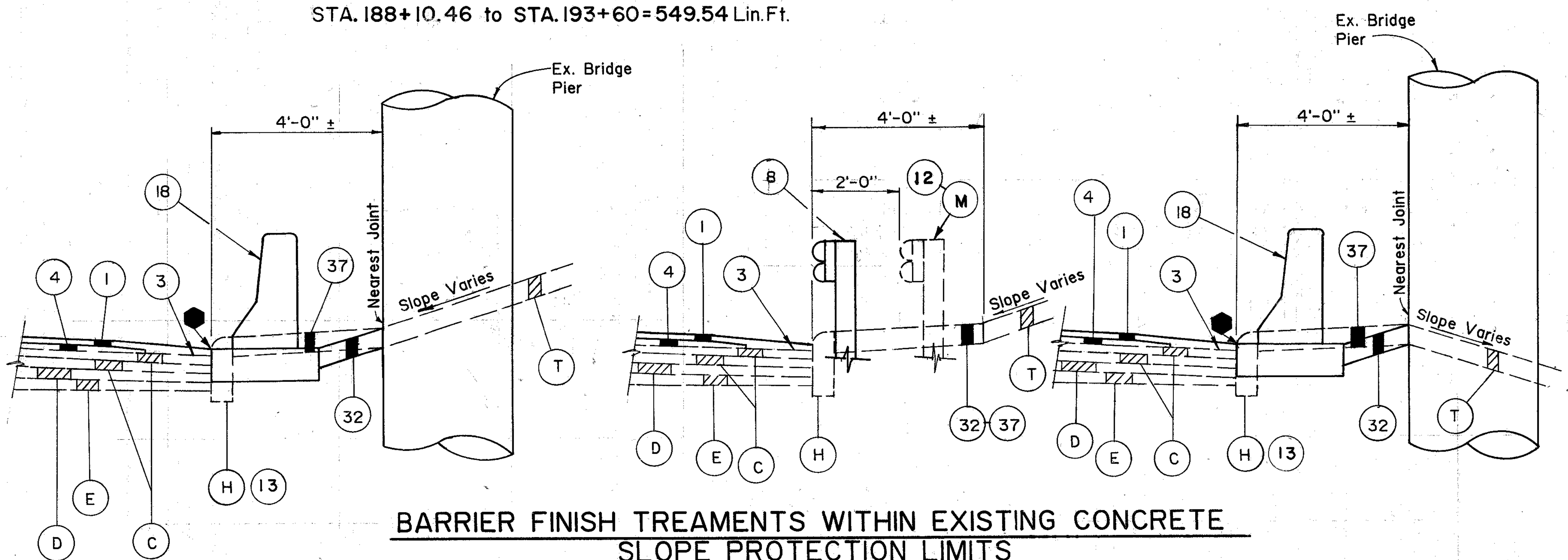
Note: ◆ Tapper Last 25' Of Concrete Barrier Type A, As Per Plan From 6" to 0" In Order To Meet Face Of Exist. Concrete Median
⬢ Indicates 1/4" Drop

NORTHBOUND READING RD.
STA. 20+56.50NBR to STA. 27+83.30NBR=726.80Lin. Ft.

RAMP RC
STA. 188+12.22RC to STA. 189+80.71

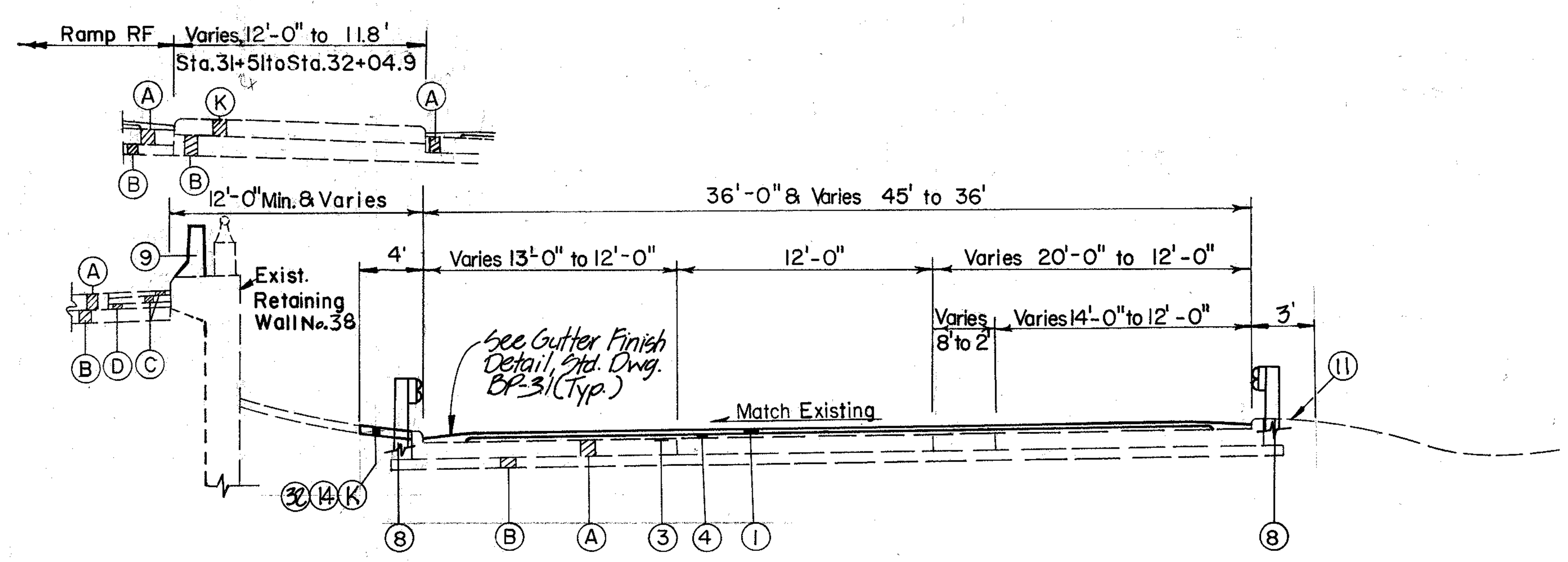


RAMP RE
STA. 188+10.46 to STA. 193+60=549.54 Lin. Ft.



BARRIER FINISH TREAMENTS WITHIN EXISTING CONCRETE SLOPE PROTECTION LIMITS

Note: See Plan Sheets For Concrete Slope Protection Limits



NOTE: For Legend, See Sheet 6

N.B. READING ROAD
STA. 27+83.301 TO STA. 32+04.00=420.70Lin.Ft.

TYPICAL SECTIONS
TYPE 446

NORMAL SECTION
LIMITING STATIONS

SOUTHBOUND
STA. 433+87.50 to STA. 457+50.00= 2362.50 Lin. Ft., w/Guardrail
STA. 492+25.00 to STA. 499+00.00= 675.00 Lin. Ft., w/o Guardrail
STA. 508+30.00 to STA. 509+50.00= 120.00 Lin. Ft., w/Guardrail

NORTHBOUND
STA. 433+87.50 to STA. 457+50.00= 288.78 Lin. Ft., w/Guardrail
STA. 492+25.00 to STA. 494+63.00= 238.00 Lin. Ft., w/Guardrail

SUPERELEVATED SECTION
LIMITING STATIONS

SOUTHBOUND
STA. 457+50.00 to STA. 466+24.77=874.77 Lin. Ft. w/Guardrail
STA. 466+24.77 to STA. 467+62.27=130.50 Lin. Ft. w/Guardrail (FDPR & FDSR)
STA. 467+62.27 to STA. 469+75.23= (Bridges & Appr. Slabs HAM-71-0965)
STA. 469+75.23 to STA. 471+12.73=137.50 Lin. Ft. w/o Guardrail (FDPR & FDSR)
STA. 471+12.73 to STA. 492+25.00=2112.27 Lin. Ft. w/o Guardrail
STA. 509+50.00 to STA. 518+54.58=904.58 Lin. Ft. w/o Guardrail (FDPR & FDSR)
STA. 518+54.58 to STA. 519+92.08=137.50 Lin. Ft. w/o Guardrail
STA. 519+92.08 to STA. 523+05.47 = (Bridge Appr. Slabs HAM-71-1063L)
STA. 523+05.47 to STA. 524+42.97= 137.50 Lin. Ft. w/o Guardrail (FDPR & FDSR)
STA. 524+42.97 to STA. 548+35.98=2393.01 Lin. Ft. w/o Guardrail

NORTHBOUND
STA. 457+50.00 to STA. 466+24.77=874.77 Lin. Ft. w/Guardrail
STA. 466+24.77 to STA. 467+62.27=137.50 Lin. Ft. w/Guardrail (FDPR & FDSR)
STA. 467+62.27 to STA. 469+75.23= (Bridge & Appr. Slabs HAM-71-0965)
STA. 469+75.23 to STA. 471+12.73=137.50 Lin. Ft. w/o Guardrail (FDPR & FDSR)
STA. 471+12.73 to STA. 492+25.00=2112.27 Lin. Ft. w/o Guardrail
STA. 516+12.97 to STA. 518+36.55=223.58 Lin. Ft. w/ Guardrail
STA. 518+36.55 to STA. 519+74.05=137.50 Lin. Ft. w/Guardrail (FDPR & FDSR)
STA. 519+74.05 to STA. 523+12.46=(Bridge & Appr. Slabs HAM-71-1063R)
STA. 523+12.46 to STA. 524+49.96=137.50 Lin. Ft. w/o Guardrail (FDPR & FDSR)
STA. 524+49.96 to STA. 548+35.98=2386.02 Lin. w/o Guardrail

NOTE: FDPR-Full Depth Pavement Repalcement
FDSR-Full Depth Shoulder Replacement
** Indicates to Match Existing Cross Slope.
⬢ INDICATES 1/4" DROP

For Legend See Sheet 15

TYPICAL SECTIONS

TYPE 446

NORMAL SECTION

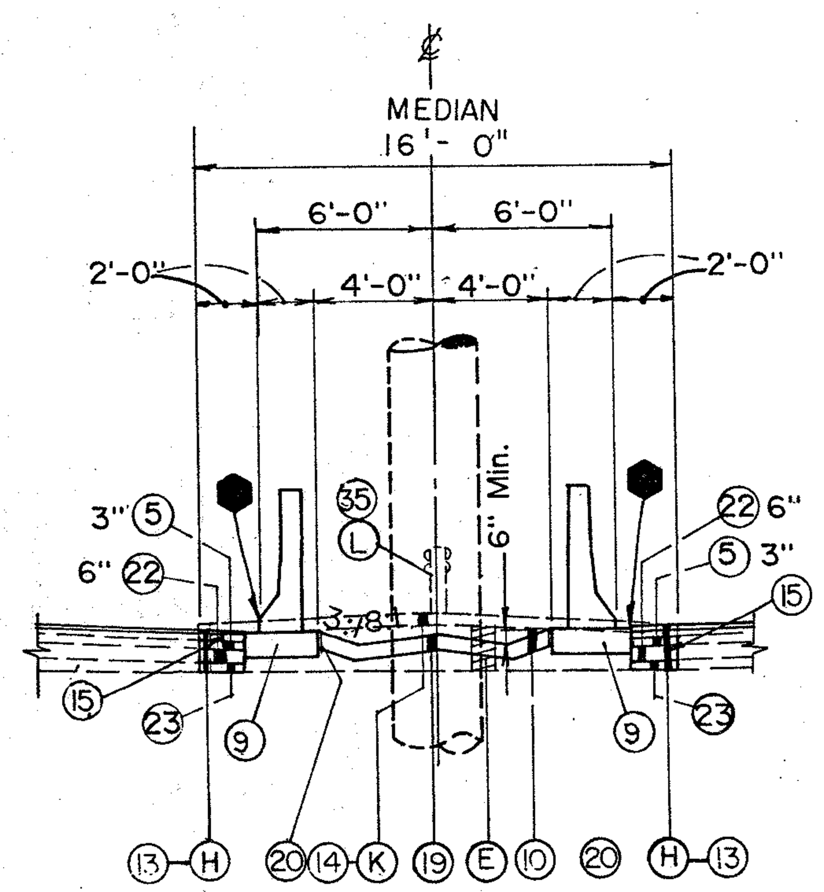
LIMITING STATIONS

SOUTHBOUND

STA. 499+00.00 to STA. 508+30.00=930.00 Lin. Ft., w Guardrail, Sta. 504+75 to Sta. 508+30

NORTHBOUND

STA. 494+63.00 to STA. 516+12.97=2249.97 Lin. Ft., w Guardrail



MEDIAN TREATMENT

NORMAL SECTION AT OVERHEAD BRIDGES
NORMAL SECTION AT LIGHT TOWERS

LEGEND

1. Item 446 — 1 1/4" Asphalt Concrete, Surface Course, Type 1, AC-20
2. Item 203 — Subgrade Compaction
3. Item 407 — Tack Coat
4. Item 446 — 1 3/4" Asphalt Concrete, Intermediate Course, Type 2, AC-20
5. Item 301 — Bituminous Aggregate Base, AC-20, Variable Depth
6. Item 622 — Concrete Barrier, Type B, As Per Plan C
7. Item 622 — Concrete Barrier, Type D
8. Item 606 — Guardrail, Type 5
9. Item 622 — Concrete Barrier, Type D50
10. Item 203 — Excavation Not Incl. Embankment Construction
11. Item 659 — Seeding and Mulching
12. Item 202 — Guardrail Removed
13. Item 202 — Curb Removed
14. Item 202 — Concrete Median Removed
15. Item 203 — Linear Grading, Method A
16. Item 254 — Pavement Planing, Bituminous
17. Item 254 — Pavement Planing, Portland Cement Concrete
18. Item 446 — 3" Asphalt Concrete, Intermeiate Course, Type 2, AC-20
19. Item 601 — Paved Gutter, Type 1-2, As Per Plan
20. Item 516 — 3/4" Performed Expansion Joint Filler
21. Item 617 — Compacted Aggregate, Type A, Variable Depth
22. Item 304 — Aggregate Base, As Per Plan (Variable Depth)
23. Item 310 — Subbase, As Per Plan, Variable Depth
24. Item 605 — Shallow Underdrain, As Per Plan, (See Plan Sheets For Limits)
25. Item 605 — 6" Shallow Pipe Underdrain, As Per Plan (See Plan Sheets For Limits)
26. Item 622 — Concrete Barrier, Type B, As Per Plan A
27. Item 446 — 1 1/2" Asphalt Concrete Surface Course, Type 1, AC-20
28. Item 446 — 2 1/2" Asphalt Concrete Intermediate Course, Type 2, AC-20
29. Item 301 — 9" Bituminous Aggregate Base, AC-20
30. Item 408 — Bituminous Prime Coat
31. Item 304 — 9" Aggregate Base, As Per Plan
32. Item 202 — Pavement Removed
33. Item 301 — 6" Bituminous Aggregate Base, AC-20
34. Item 622 — Concrete Barrier, Type C
35. Item 202 — Approach Slab Removed
36. Item 611 — Reinforced Concrete Approach Slab (T=17"), As Per Plan
37. Item 202 — Concrete Median Removed, As Per Plan
38. Item 202 — Guardrail Removed, Barrier Design
39. Item 203 — Linear Grading, Method B
40. Item 203 — Linear Grading, Method C
41. Item 203 — Embankment

- (A) Existing — 9" Reinforced Portland Cement Concrete Pavement
- (B) Existing — Subbase, Grading "A" or "B" (Except as Noted)
- (C) Existing — Bituminous Aggregate Base
- (D) Existing — Aggregate Base
- (E) Existing — Subbase
- (F) Existing — Drainage Connection Aggregate
- (G) Existing — 6" Underdrain
- (H) Existing — Concrete Curb Type 6
- (I) Not Used
- (J) Not Used
- (K) Existing — Concrete Median
- (L) Existing — Guardrail, Barrier Design
- (M) Existing — Guardrail
- (N) Existing — 8" Reinforced Portland Cement Concrete Pavement
- (P) Existing — 2 1/2" Asphalt Concrete Overlay

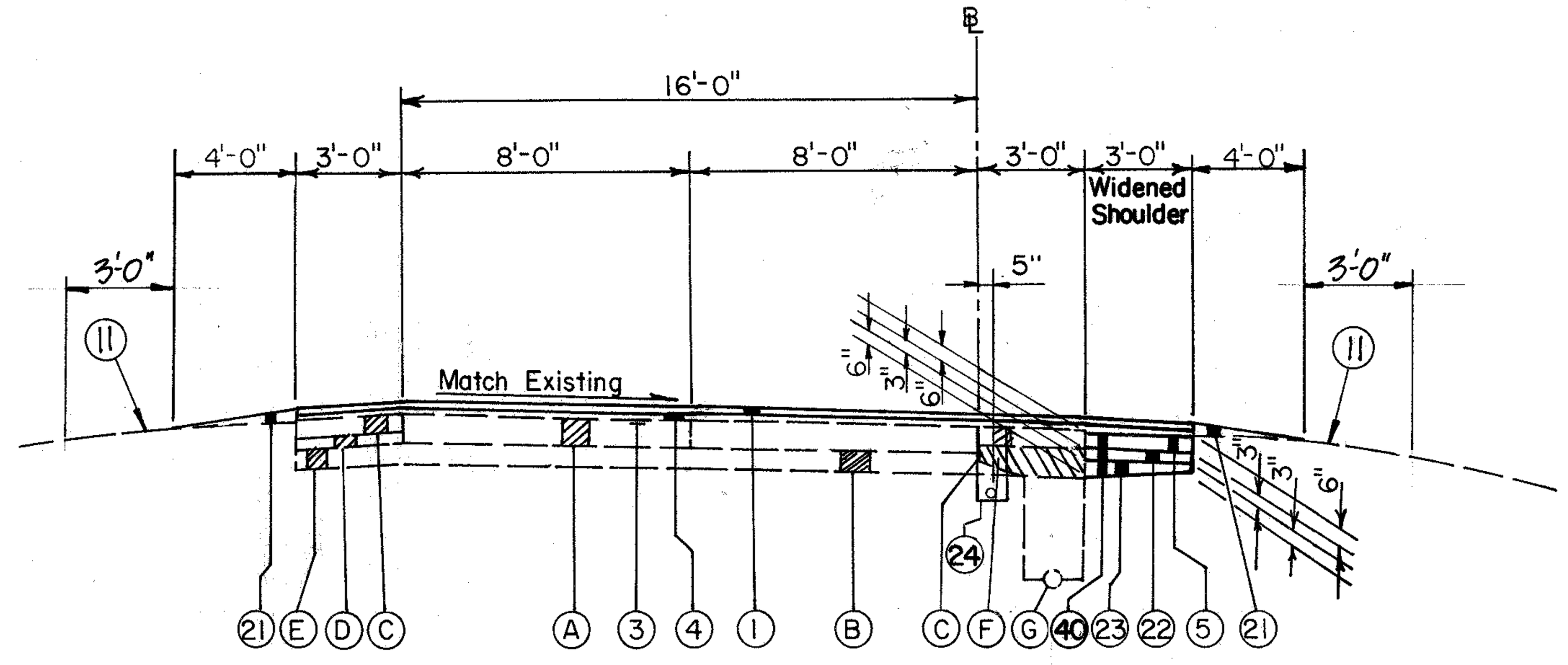
NOTE:
⬢ - Indicates 1/4" Drop

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		DLB 9-23-92 PVP 3-4-94

HAM. - 71-1.30/9.00

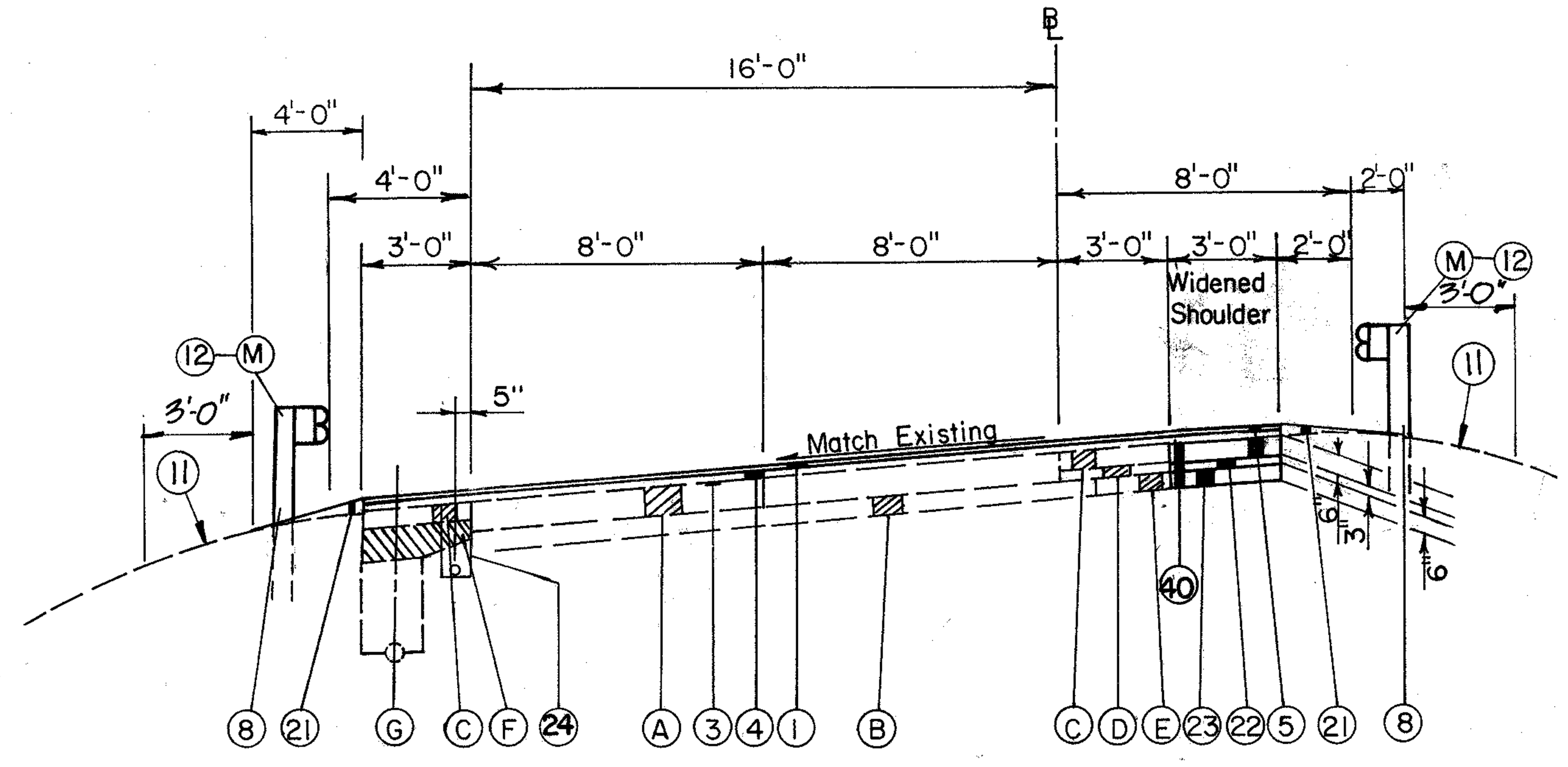
16/401

TYPICAL SECTIONS
TYPE 446



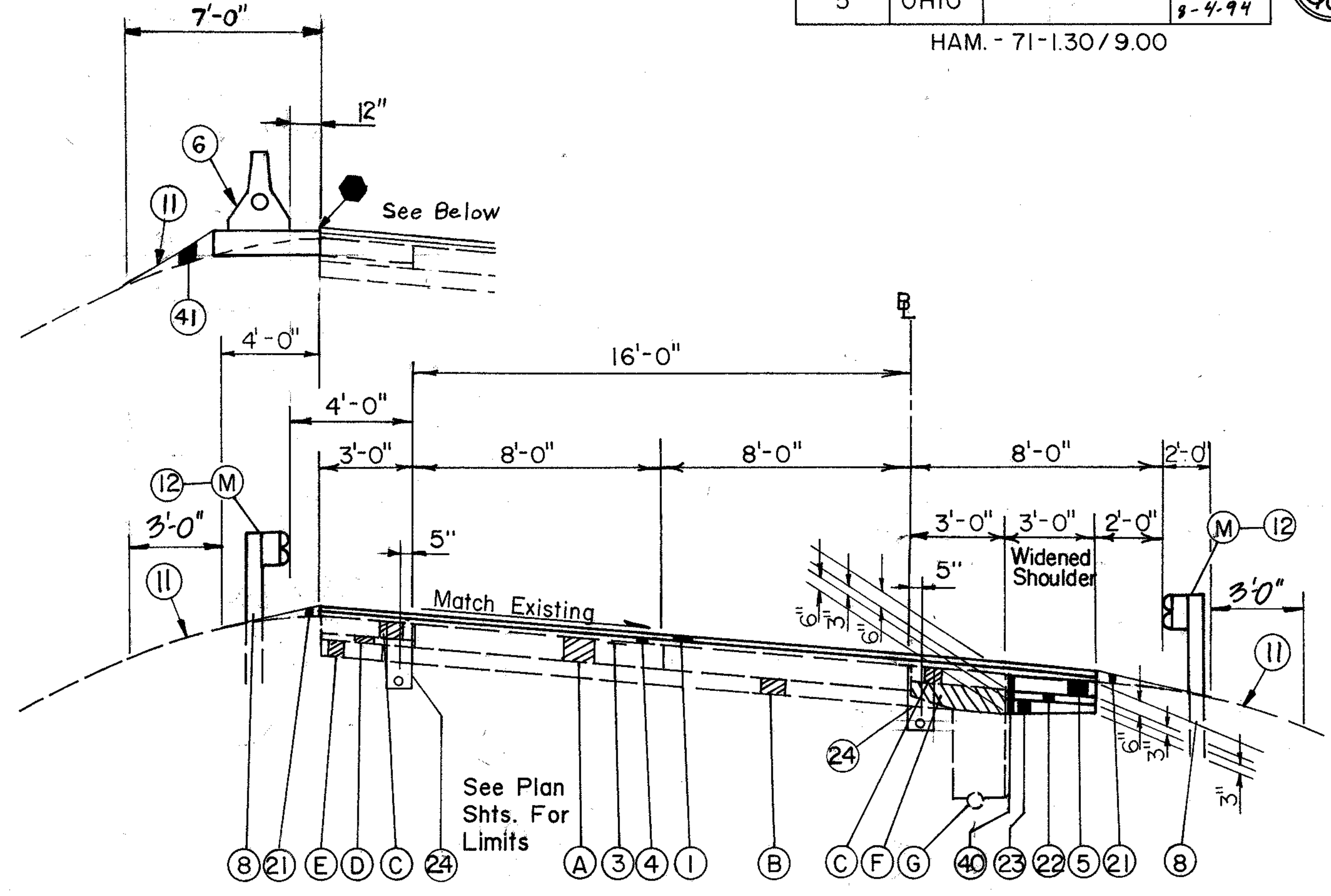
NORMAL RAMP SECTION

STA. 2+00.00 to STA. 5+29.08 Ramp A = 329.08 Lin.Ft. (Opp. Hand)
STA. 6+00.00 to STA. 7+50.00 Ramp C = 150.00 Lin.Ft.
STA. 13+25.00 to STA. 17+11.60 Ramp D = 386.60 Lin.Ft.
STA. 1+32.87 to STA. 12+06.08 Ramp E = 1073.21 Lin.Ft.
STA. 1+20.84 to STA. 2+75.71 Ramp F = 154.87 Lin.Ft.



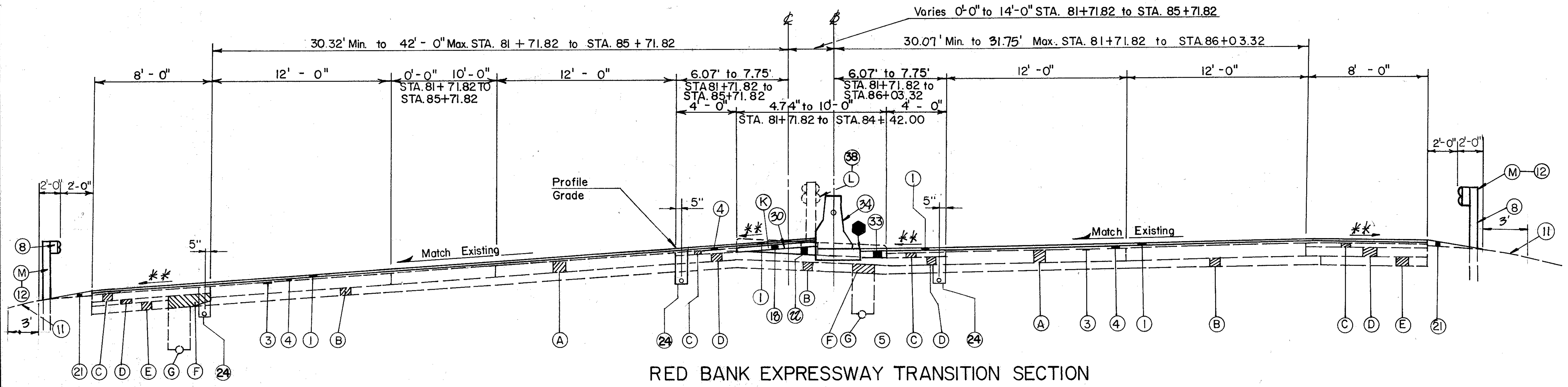
SUPERELEVATED RAMP SECTION

STA. 5+29.08 to STA. 8+01.13 Ramp A = 272.05 Lin. Ft.
STA. 8+01.13 to STA. 11+27.76 Ramp A = Included in HAM-71-0987
STA. 11+27.76 to STA. 14+75.00 Ramp A = 347.24 Lin. Ft.
STA. 7+50.00 to STA. 16+38.36 Ramp C = 888.36 Lin. Ft.
STA. 16+38.36 to STA. 21+77.31 Ramp C Included in HAM-71-0986
STA. 21+77.31 to STA. 25+75.00 Ramp C = 397.69 Lin. Ft.
STA. 6+75.00 to STA. 19+50.00 Ramp F = 1275.00 Lin. Ft.



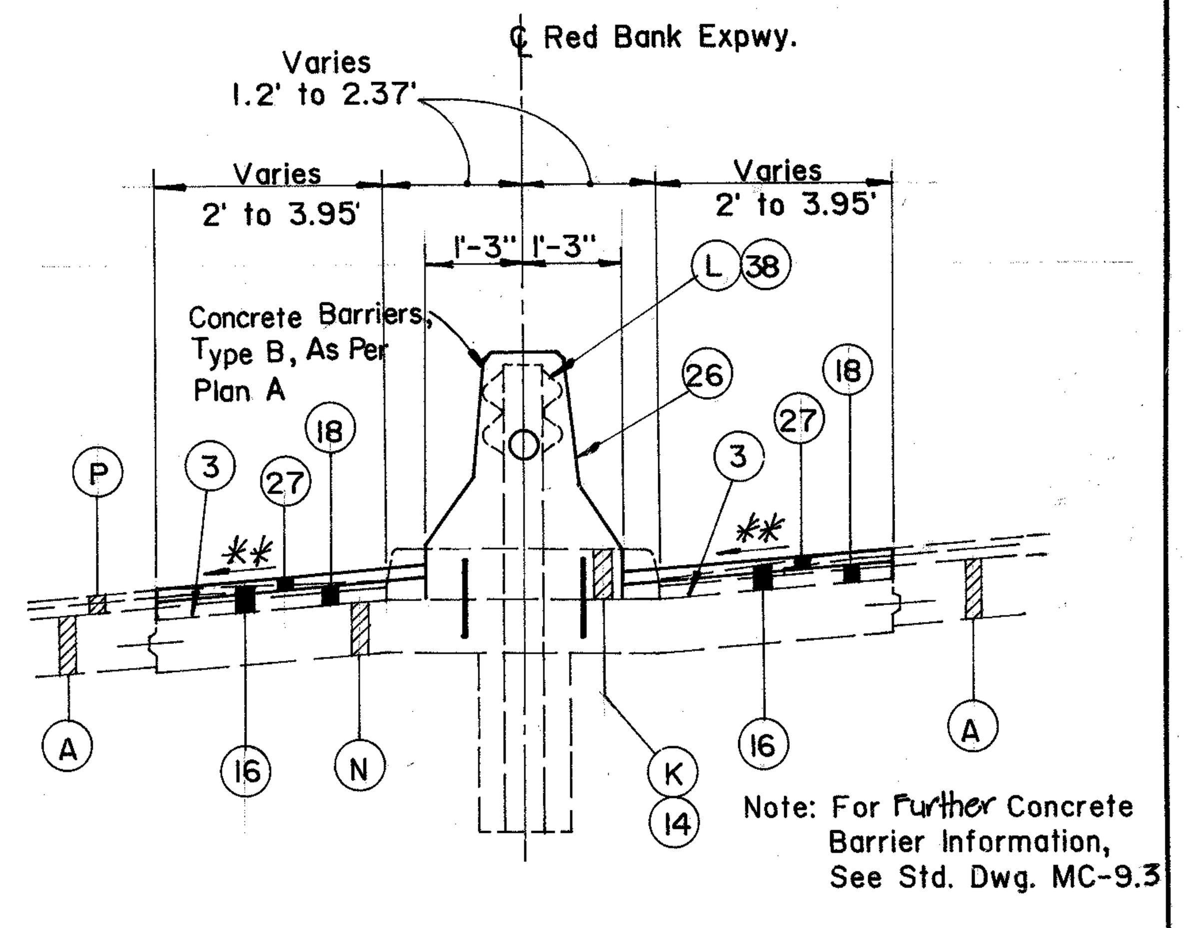
SUPERELEVATED RAMP SECTION

STA. 0+00.00 to STA. 2+00.00 Ramp A = 200.00 Lin. Ft (Opp. Hand)
STA. 14+75.00 to STA. 19+42.67 Ramp A = 467.67 Lin. Ft.
STA. 4+34.20 to STA. 16+74.12 Ramp B = 1239.92 Lin. Ft.
STA. 25+75.00 to STA. 28+99.17 Ramp C = 324.17 Lin. Ft.
STA. 0+00.00 to STA. 13+25.00 Ramp D = 1325.00 Lin. Ft.
STA. 5+44.01 to STA. 6+00.00 Ramp F Included in HAM-71-1063
STA. 6+00.00 to STA. 6+75.00 Ramp F = 75.00 Lin. Ft.
STA. 19+50.00 to STA. 21+90.76 Ramp F = 240.76 Lin. Ft.



RED BANK EXPRESSWAY TRANSITION SECTION

STA. 81+71.82 to STA. 85+71.82 = 400.00 Lin.Ft.
STA. 85+71.82 to STA. 86+03.32 Rt. Side Only = 31.50 Lin.Ft.



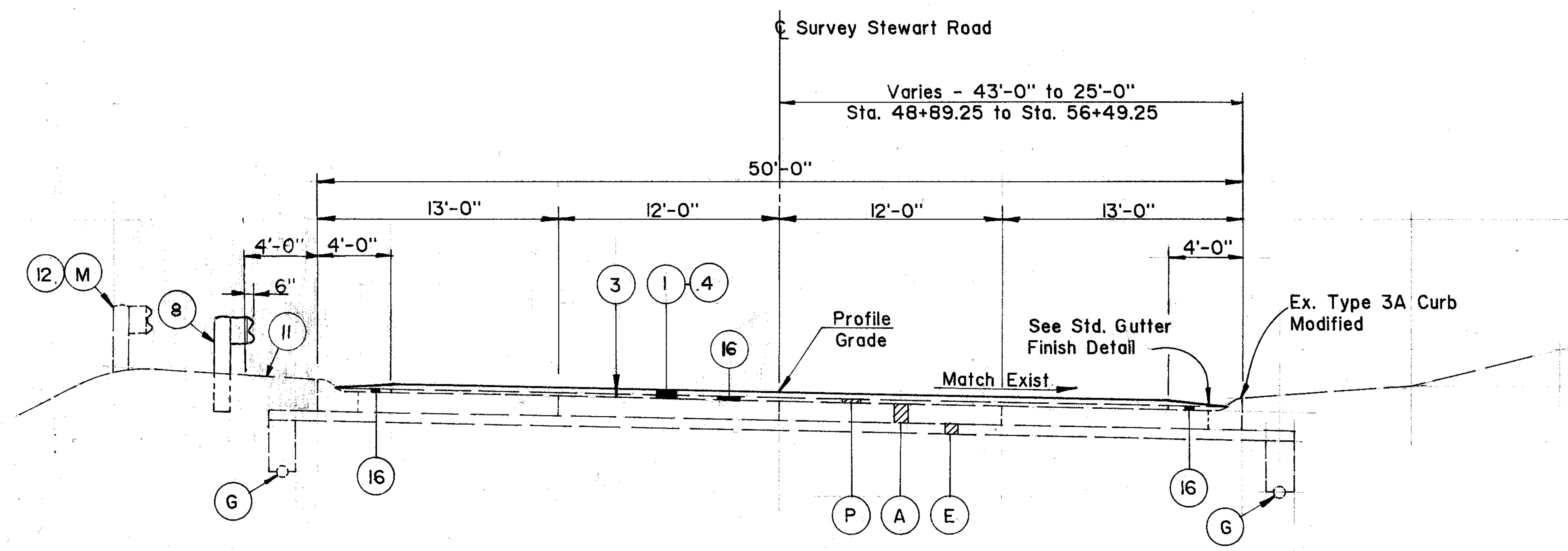
RED BANK EXPRESSWAY MEDIAN SECTION
Sta. 74+25 to Sta. 81+71.82 = 746.82 Lin Ft.

Note: ** Indicates to Match Existing Cross Slope.

⬢ INDICATES 1/4" DROP

For Legend, See Sheet 15

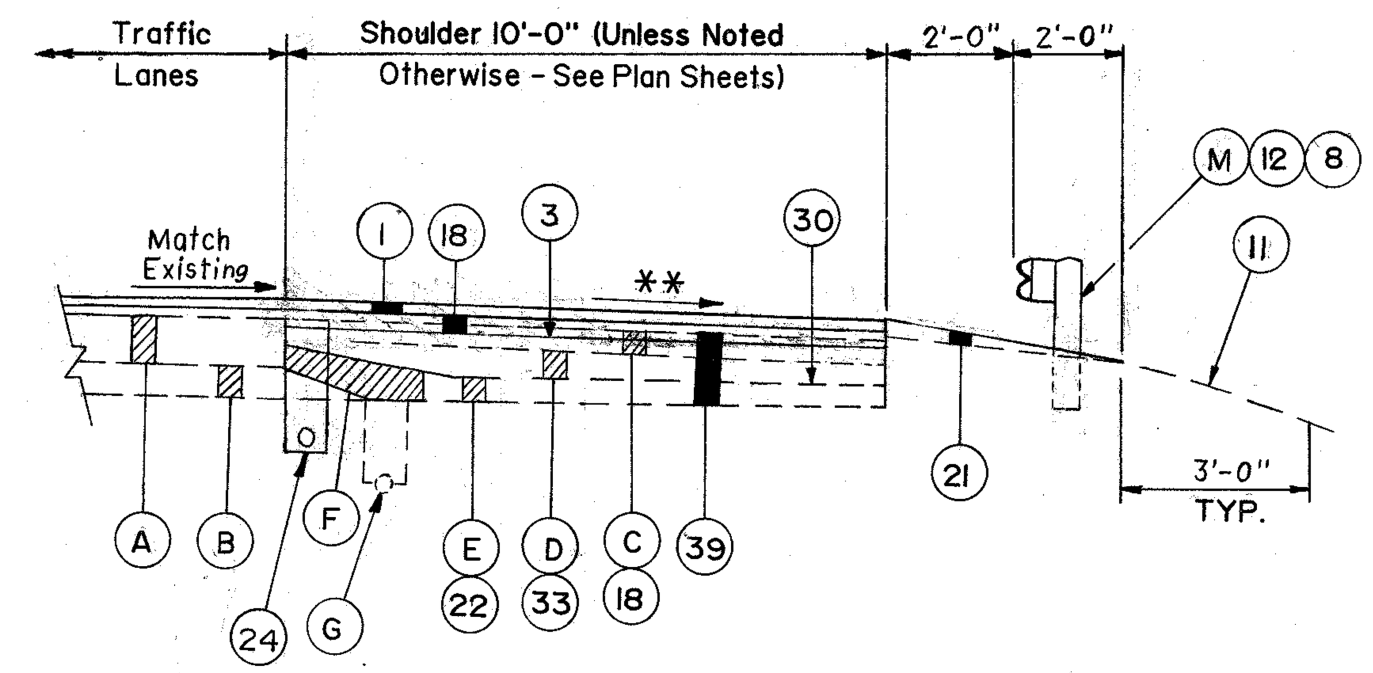
MRC 10-100 506445



SUPERELEVATED SECTION

Sta. 45+65.00 to Sta. 54+80.00 Stewart Rd. = 915.00 Lin. Ft.

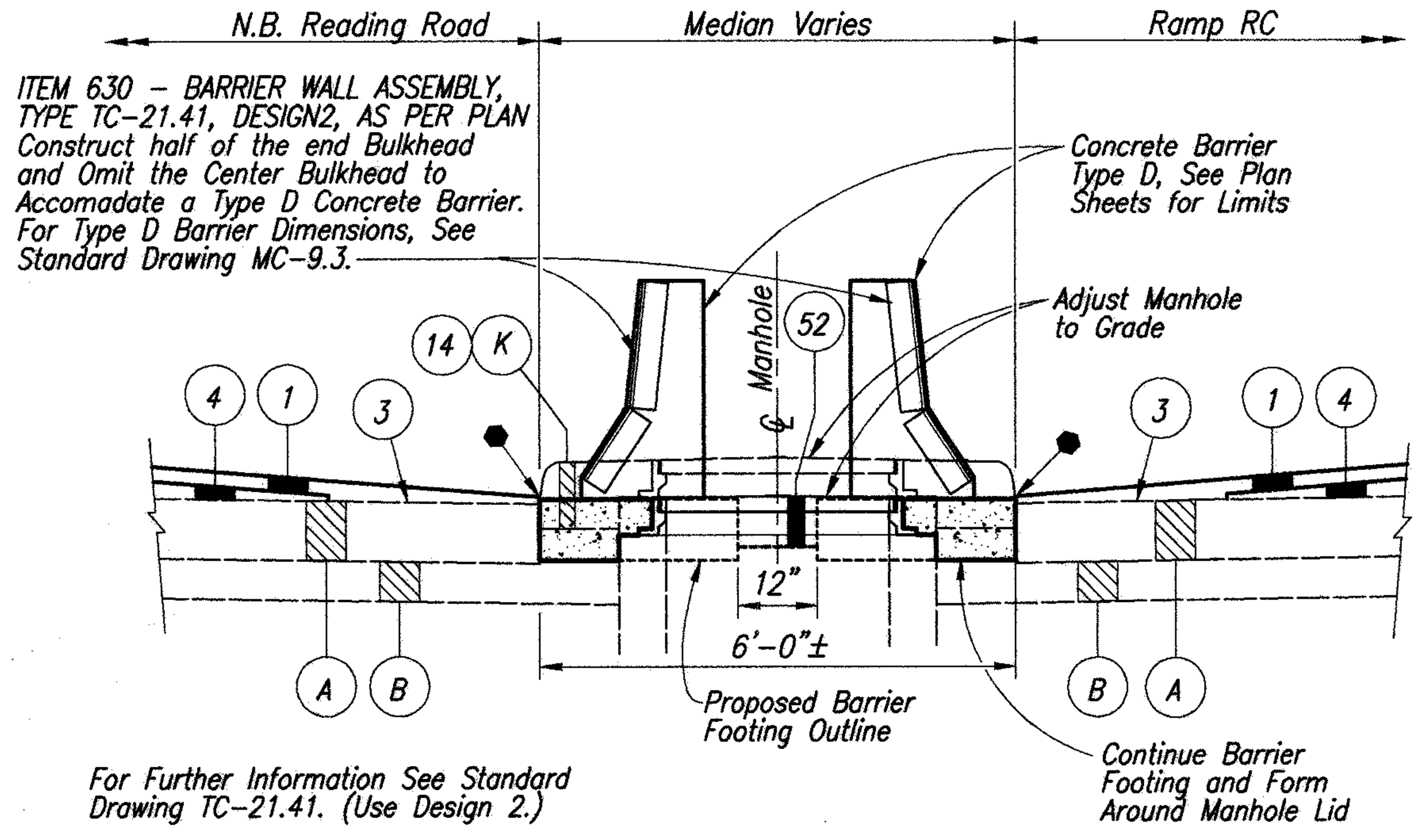
STEWART ROAD



SHOULDER RECONSTRUCTION (Mainline)

Sta. 435+07 to Sta. 466+04.7± (Right)	=	3097.7 Lin. Ft.
Sta. 471+45 to Sta. 474+50 (Left)	=	305 Lin. Ft.
Sta. 508+25 to Sta. 509+25 (Left)	=	100 Lin. Ft.
Sta. 511+50 to Sta. 517+56± (Right)	=	606 Lin. Ft.

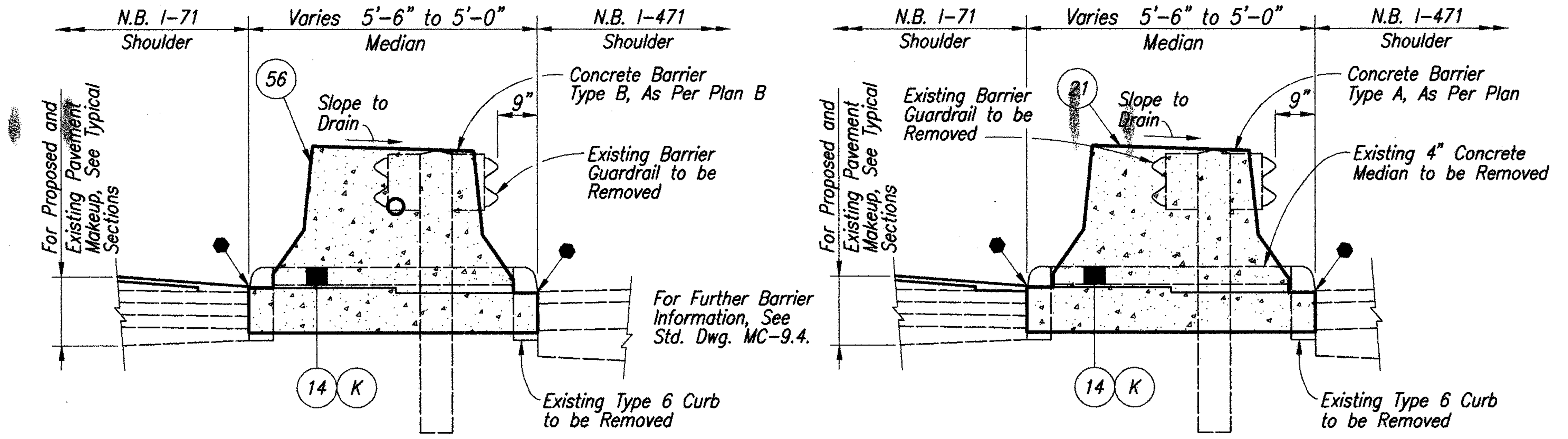
NOTE: For Legend, See Sheet 15.



BARRIER WALL DETAIL @ MANHOLE

(Sta. 186+75RC RAMP RC – SECTION 1)

SCALE: 1/2" = 1'-0"



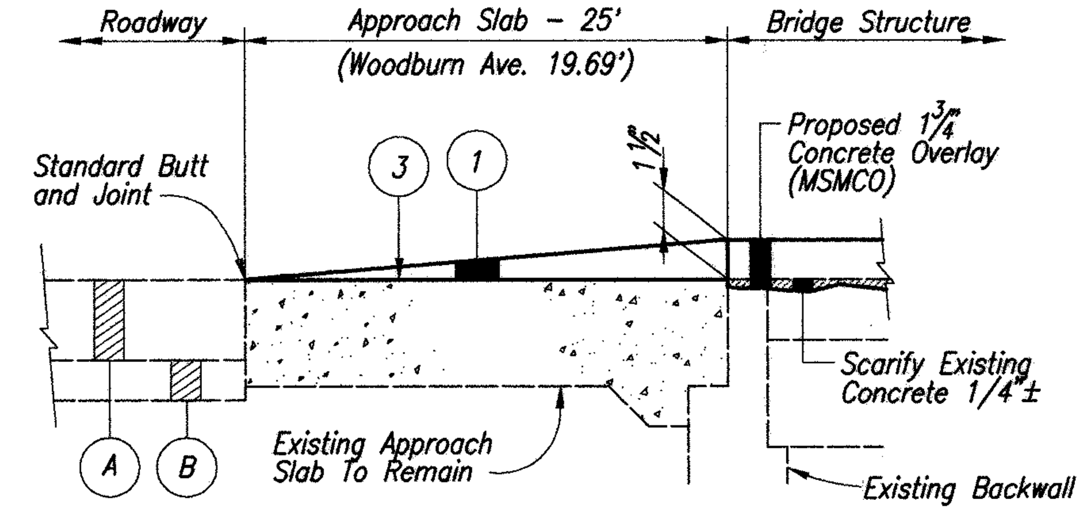
Sta. 153+49.5N to Sta. 155+91.25N

Sta. 155+91.25N to Sta. 158+30.44N

BARRIER WALL DETAIL @ N.B. I-71 & N.B. I-471

(Sta. 153+49.5N to Sta. 158+30.44N – SECTION 1)

SCALE: 1/2" = 1'-0"

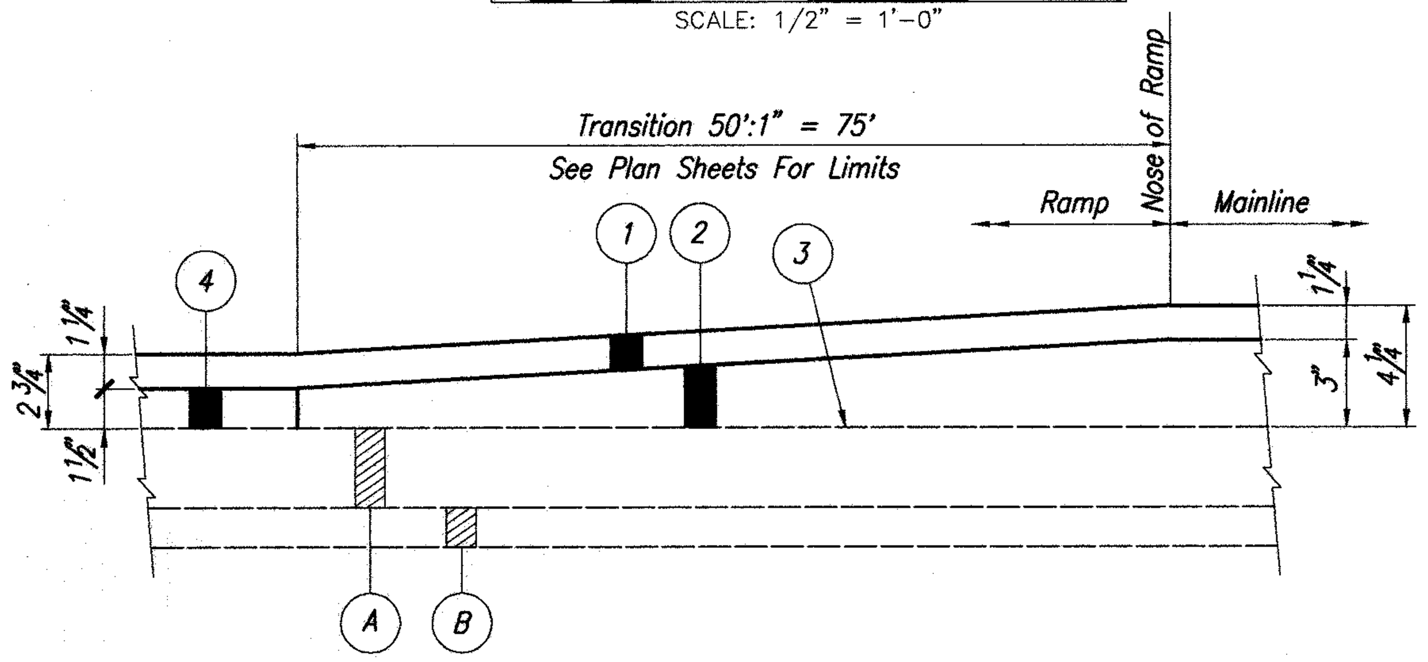


FEATHERING @ OVERHEAD BRIDGES

WITH EXISTING ASPHALT PAVEMENT APPROACHES

NOT TO SCALE

HAM-71-0289 West Approach Only



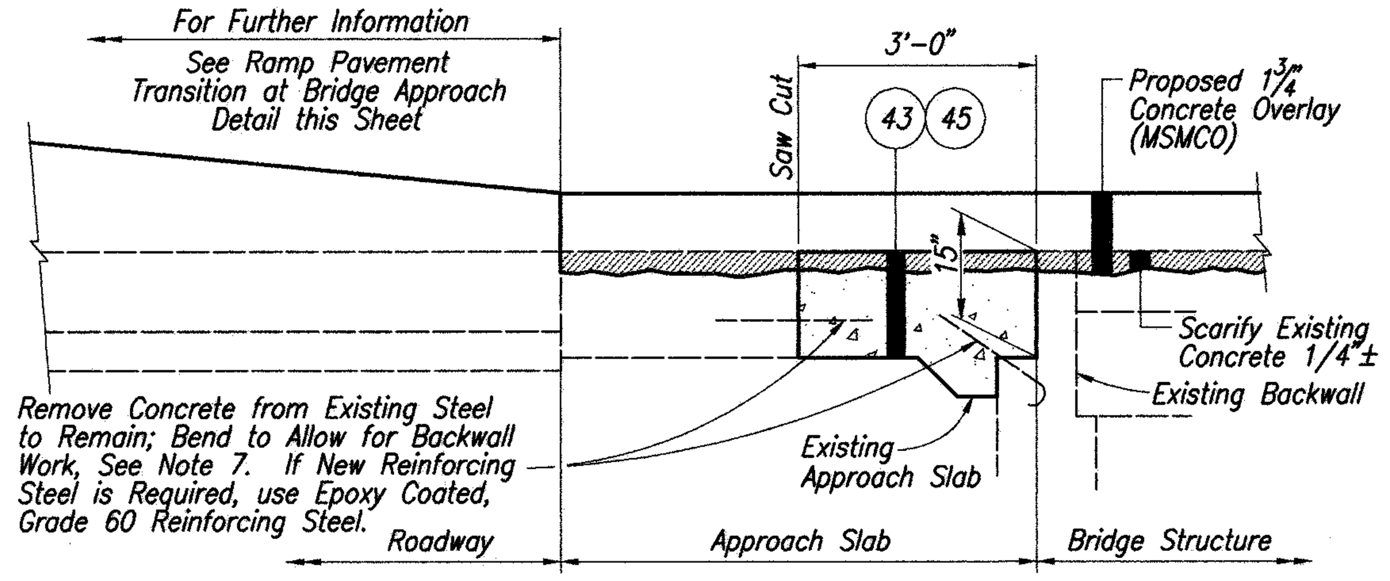
PAVEMENT TRANSITION @ RAMP TO MAINLINE

NOT TO SCALE

SECTION 1
Ramp GD to Northbound I-71
Ramp RC from Northbound I-71
Ramp RB to Southbound I-71
Ramp RD to Northbound I-71

SECTION 2
Ramp D to Northbound I-71
Ramp C from Southbound I-71

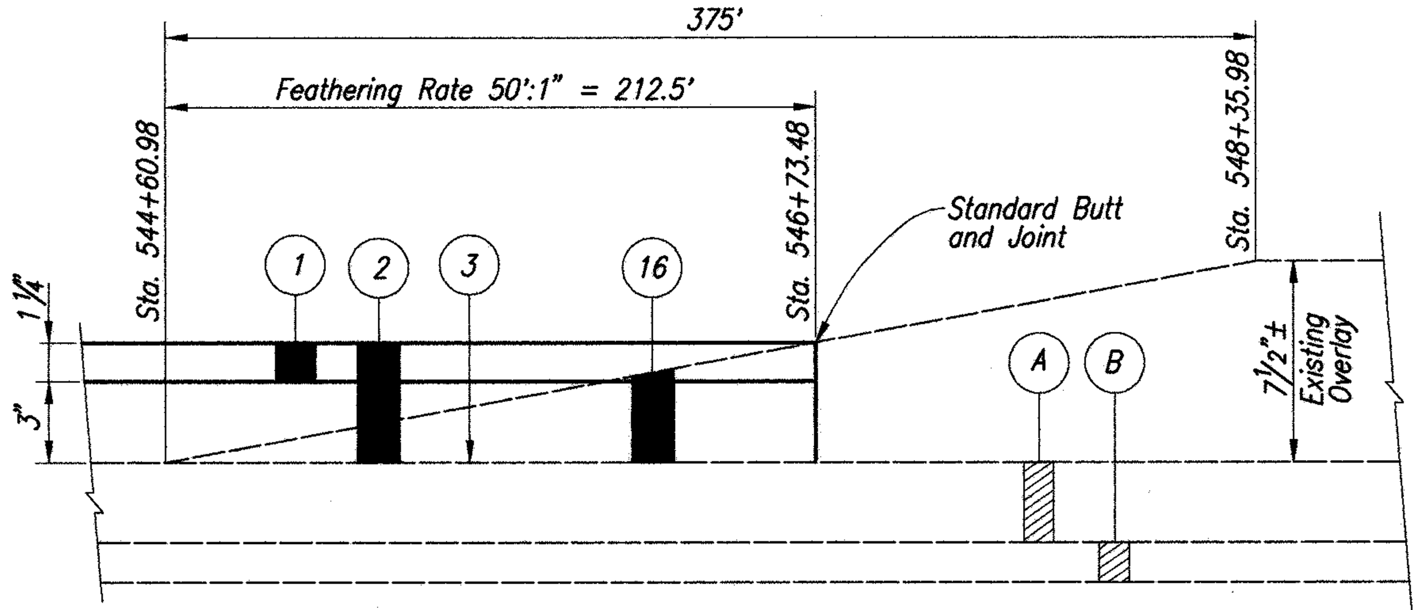
NOTE: The Engineer Shall Determin the Useability of the Existing Reinforcing Steel and, if Additional Steel is Needed.



PARTIAL APPROACH SLAB REMOVAL DETAIL

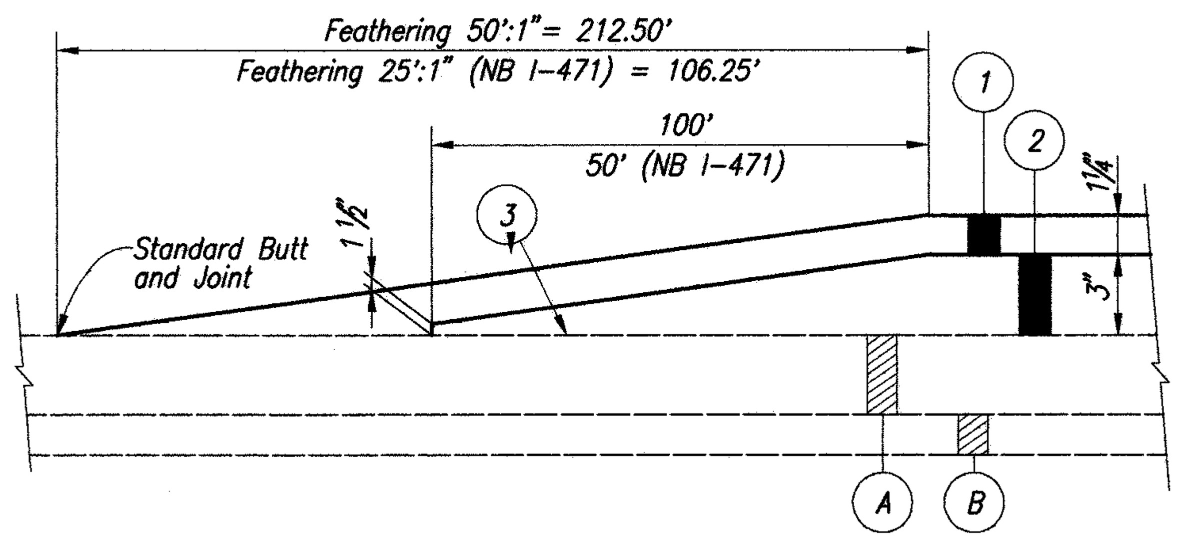
NOT TO SCALE

HAM-71-0228 (RAMP RD – BOTH APPROACHES)
HAM-42-0235R (N.B. READING ROAD – SOUTH APPROACH ONLY)



FEATHERING @ END OF PROJECT (SECTION 2)

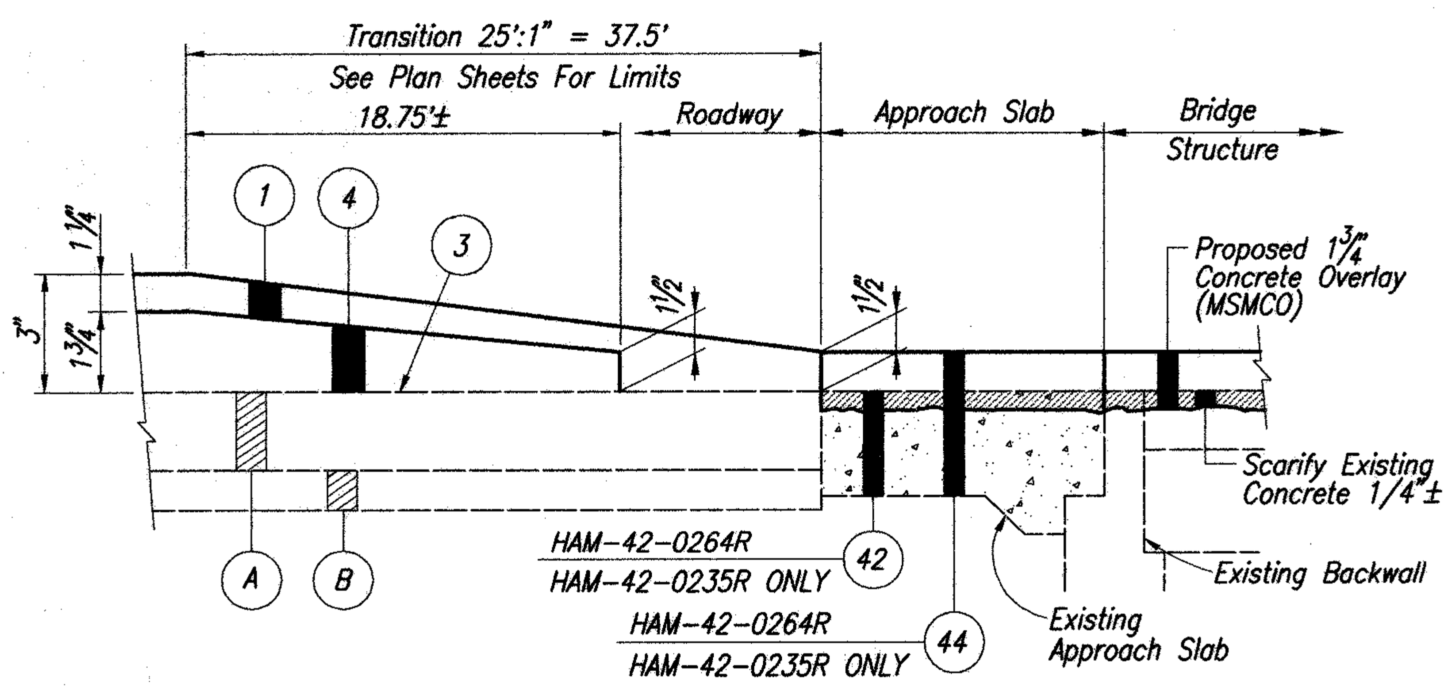
NOT TO SCALE



FEATHERING @ SUSPEND PROJECT, RESUME PROJECT, NB I-71 and NB I-471

NOTE: SUSPEND PROJECT FEATHERING IS OPPOSITE HAND

NOT TO SCALE



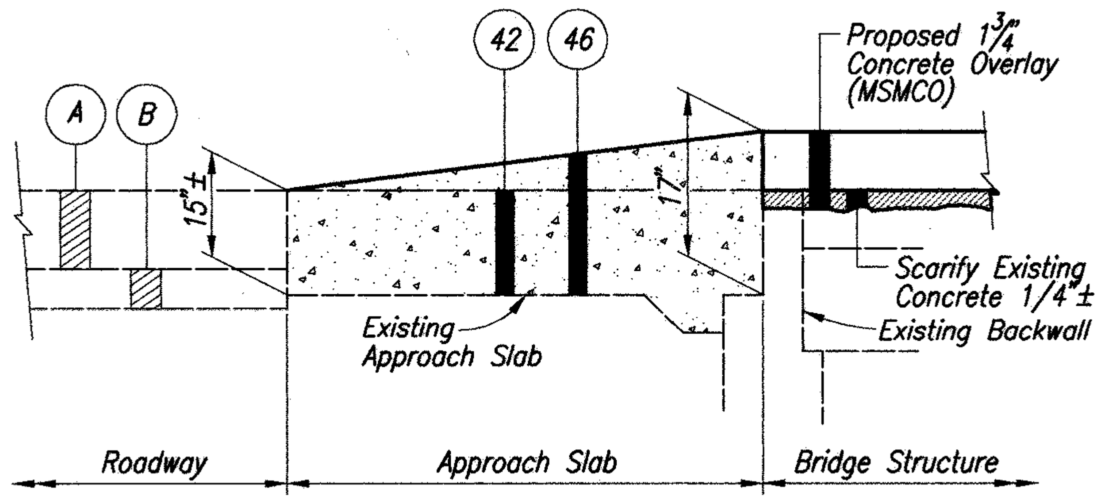
RAMP PAVEMENT TRANSITION @ BRIDGE APPROACH

NOT TO SCALE

SECTION 1
NB Reading Rd. (Bridge HAM-42-0235R) Forward Approach Only
Ramp RA/GA (Bridge HAM-42-0264R) Rear Approach Only
Ramp RD (Bridge HAM-71-0228) Both Approaches
Ramp RB (Bridge HAM-42-0257R) Both Approaches

SECTION 2
Ramp F (Bridge HAM-71-1063)
Ramp A (Bridge HAM-71-0987)
Ramp C (Bridge HAM-71-0986)

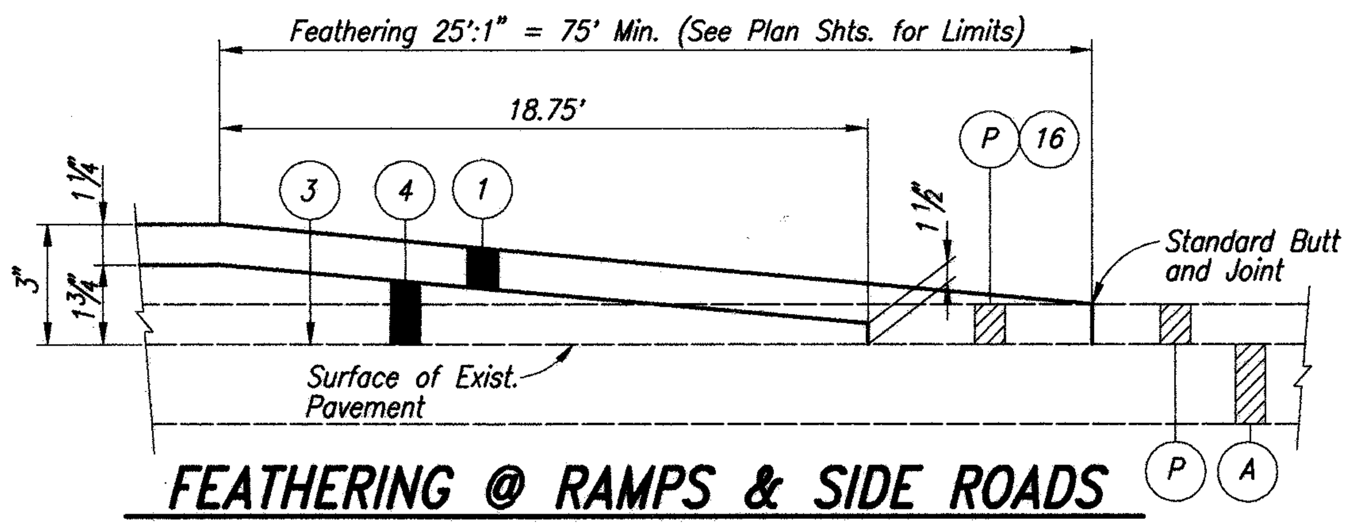
NOTE: Omit Scarifying and Proposed 1¾" Concrete Overlay (MSMCO) at Bridge HAM-42-0235R and HAM-42-0264R



APPROACH SLAB REMOVAL AND REPLACEMENT AT OVERHEAD BRIDGES

NOT TO SCALE

HAM-22-0145 (GILBERT AVE. – BOTH APPROACHES)
HAM-71-0221 (ELSINORE PLACE – BOTH APPROACHES)
HAM-71-0289 (McGREGOR AVE. – EAST APPROACH ONLY)



FEATHERING @ RAMPS & SIDE ROADS

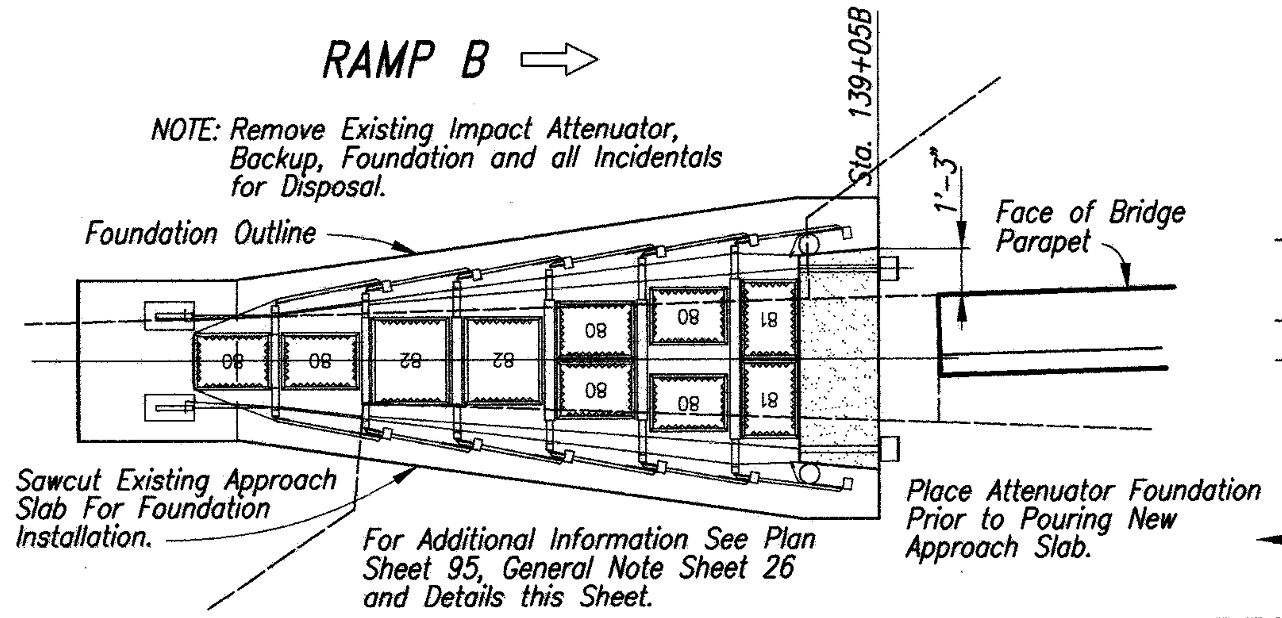
WITH EXISTING CONCRETE PAVEMENT APPROACHES

NOT TO SCALE

Ramp GD	Ramp RF	Nouthbound Reading Road	Stewart Road
Ramp GA	Ramp RE	Ramp RD	

NOTES

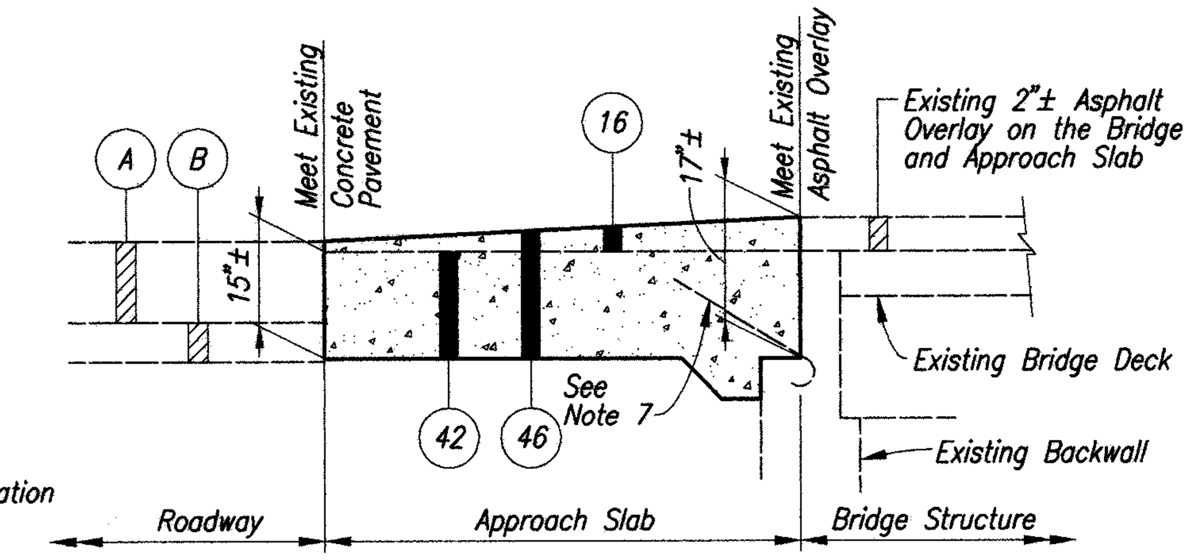
1) For SECTION 1 Item Legend Information, See Sheet 6
2) For SECTION 2 Item Legend Information, See Sheet 15
3) "MSMCO" Stands for Item SPECIAL, MICRO-SILCA MODIFIED CONCRETE OVERLAY.
4) ● Indicates a 1/4" Drop, this is Typical at all Locations Where a Concrete Barrier is Placed Adjacent to Proposed Pavement Overlay.
5) All Reinforced Steel Shall be Epoxy Coated As Per 509.10, Grade 60, and Paid for Under the type of Concrete Barrier it is Being used in. All Rebars Shall have a Minimum of 2" Clearance. For Further Information, See Standard Drawing MC-9.3.
6) For Approach Slab Information, See Standard Drawing AS-1-81.
7) Contractor Shall Exercise Caution to Ensure that These Bars are not Damaged During the Concrete Removal Operation. Any Bars Damaged as a Result of the Contractor's Operation Shall be Replaced or Repaired by the Contractor at his Expense. Method of Repair or Replacement will be at the Discretion of the Engineer.
8) For Additional Information Pertaining to Concrete Barriers, See Standard Drawings GR-8 and MC-9.3.



CONCRETE PAD DETAIL FOR 6-BAY UNIT

(RAMP B to NB I-71)

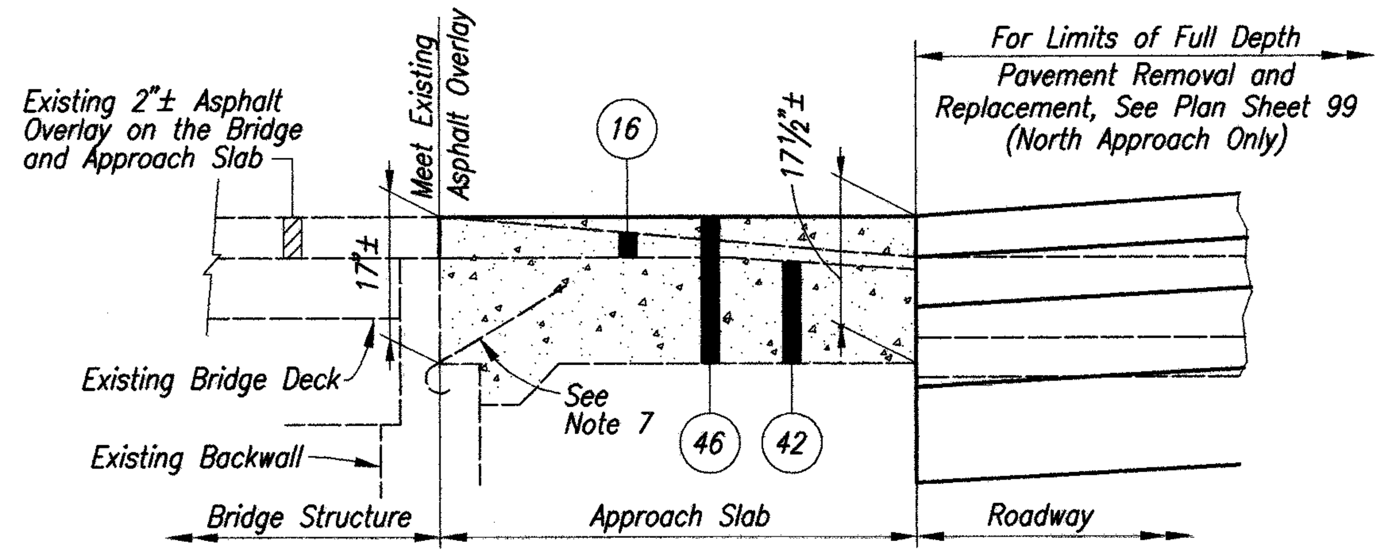
SCALE: 1/4" = 1'-0"



APPROACH SLAB DETAIL @ BRIDGE HAM-71-0192W

(SOUTH APPROACH - SECTION1)

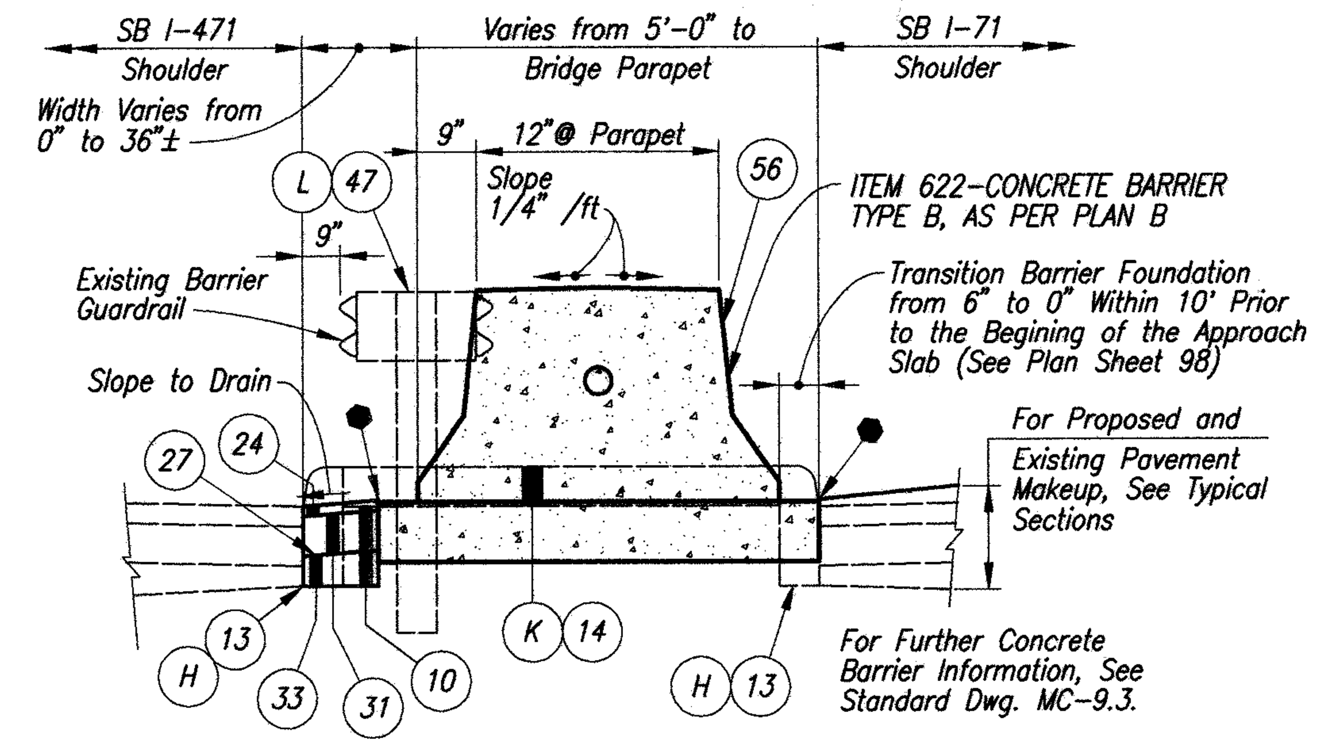
NOT TO SCALE



APPROACH SLAB DETAIL @ BRIDGE HAM-71-0192W

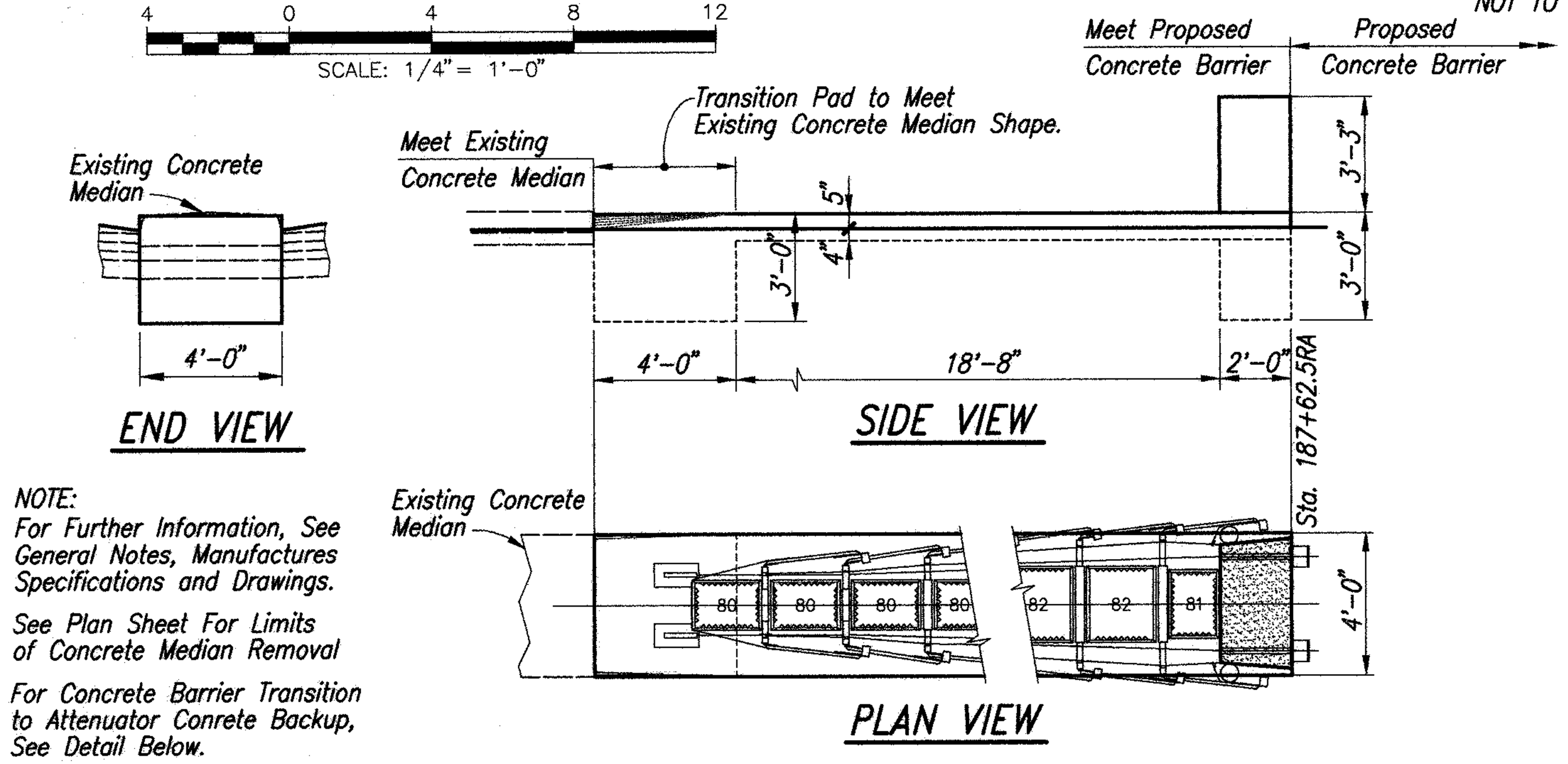
(NORTH APPROACH - SECTION 1)

NOT TO SCALE



STA. 157+63℄ to STA. 158+67.5℄±

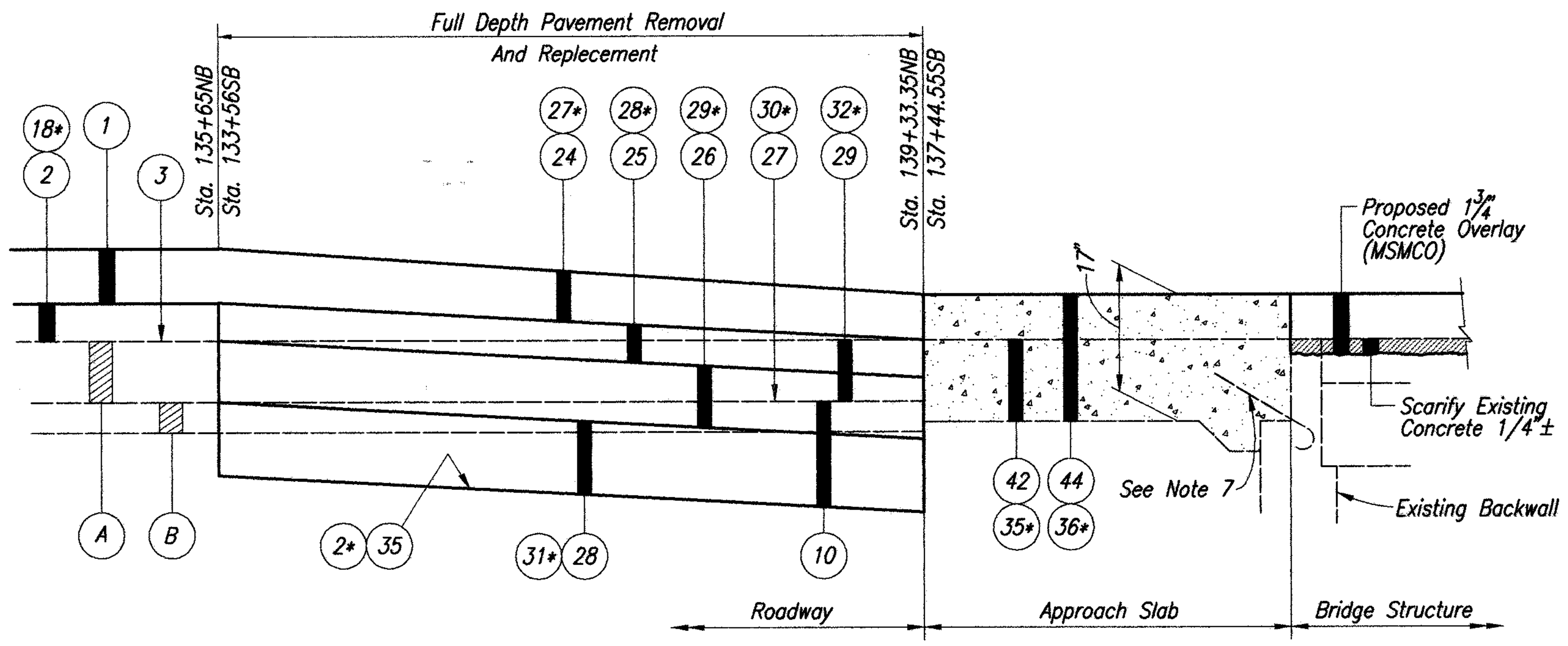
(BARRIER TO MEET BRIDGE PARAPET)



NOTE:
- For Further Information, See General Notes, Manufactures Specifications and Drawings.
- See Plan Sheet For Limits of Concrete Median Removal
- For Concrete Barrier Transition to Attenuator Conrete Backup, See Detail Below.

CONCRETE PAD DETAIL FOR HEX-FOAM IMPACT ATTENUATOR @ STA. 187+62.5RA (RAMP RA/GA - SECTION 1)

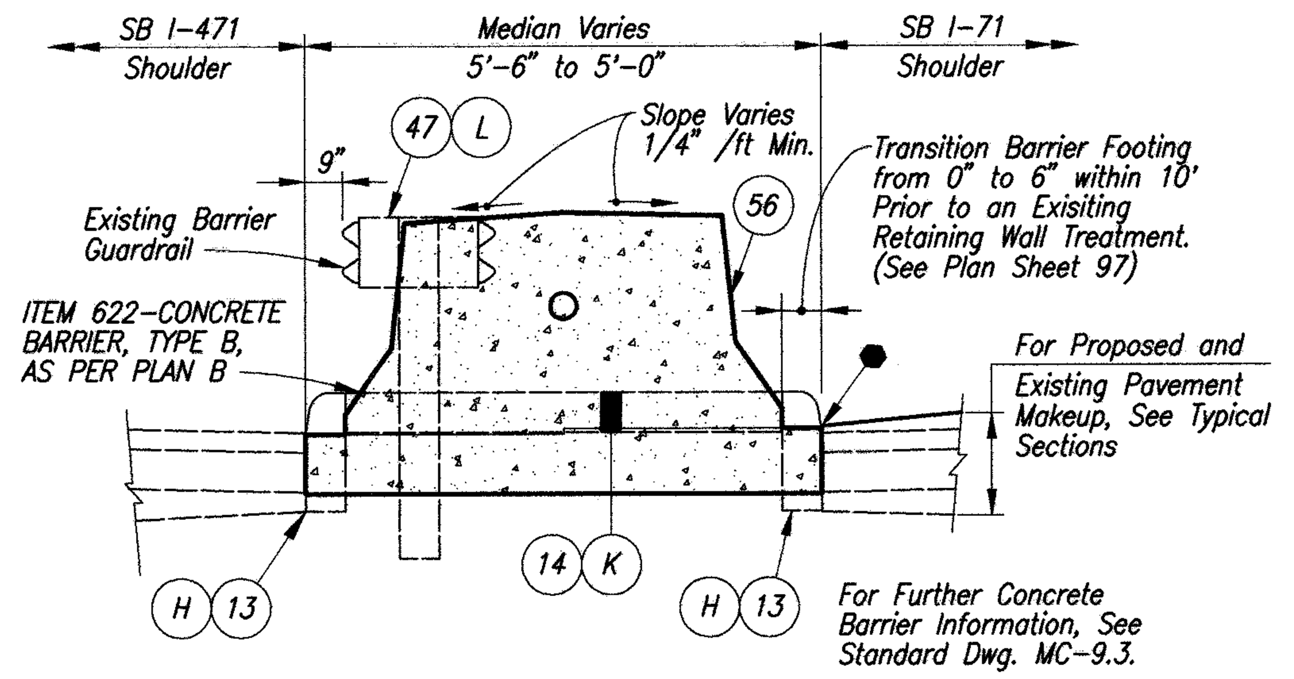
SCALE: 1/4" = 1'-0"



FULL DEPTH PAVEMENT REMOVAL & REPLACEMENT DETAIL

NOT TO SCALE

HAM-71-0154	R/L (Forward Approach Only)	HAM-42-0264R	(Forward Approach Only)
HAM-71-0192	R/L (Both Approaches)	HAM-71-0965	R/L (Both Approaches)
HAM-71-0243	R/L (Both Appraoches)	HAM-71-1063	R/L (Both Approaches)

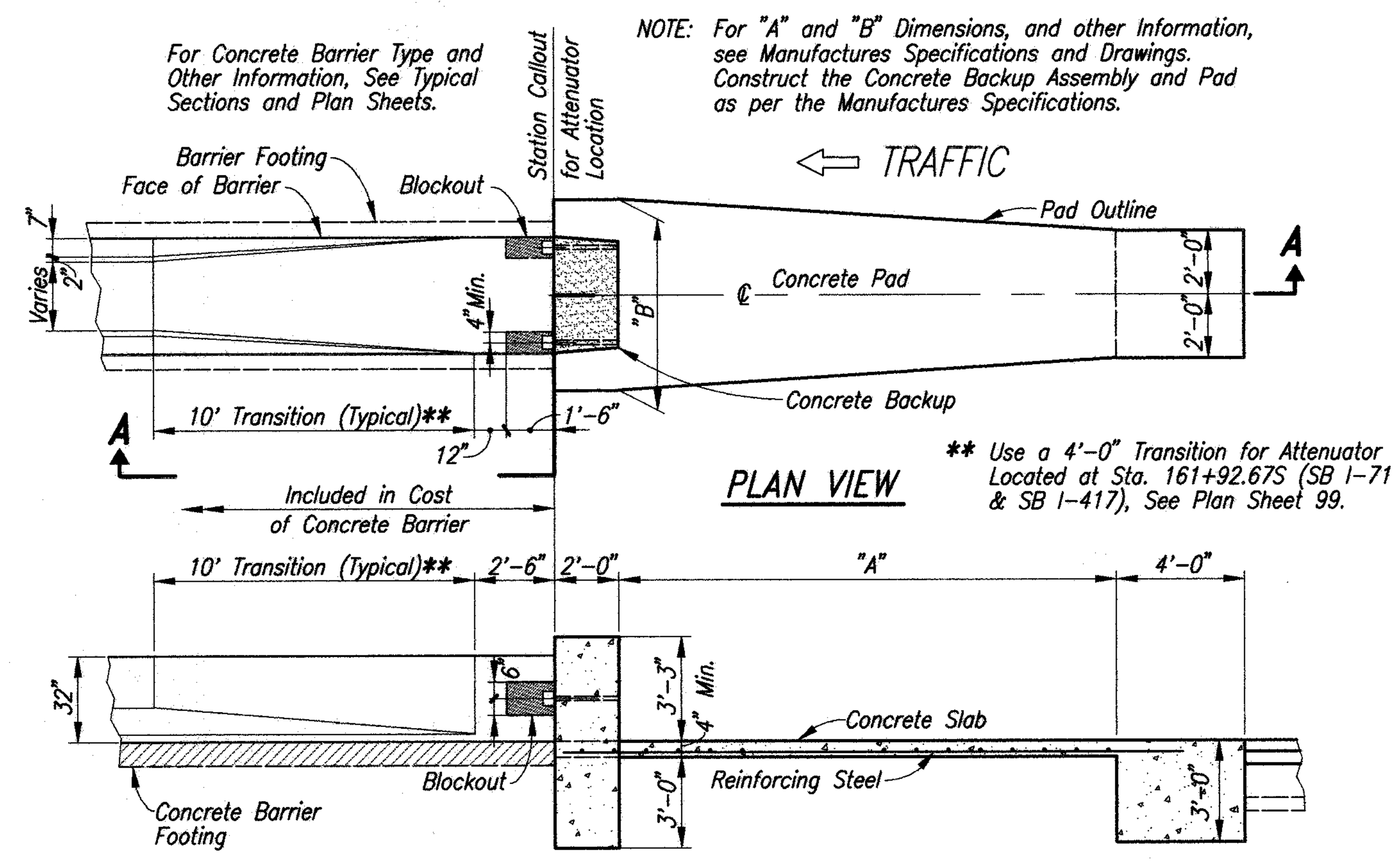


STA. 154+28℄ to STA. 157+63℄

CONCRETE BARRIER WALL DETAIL @ SB I-71 and SB I-471

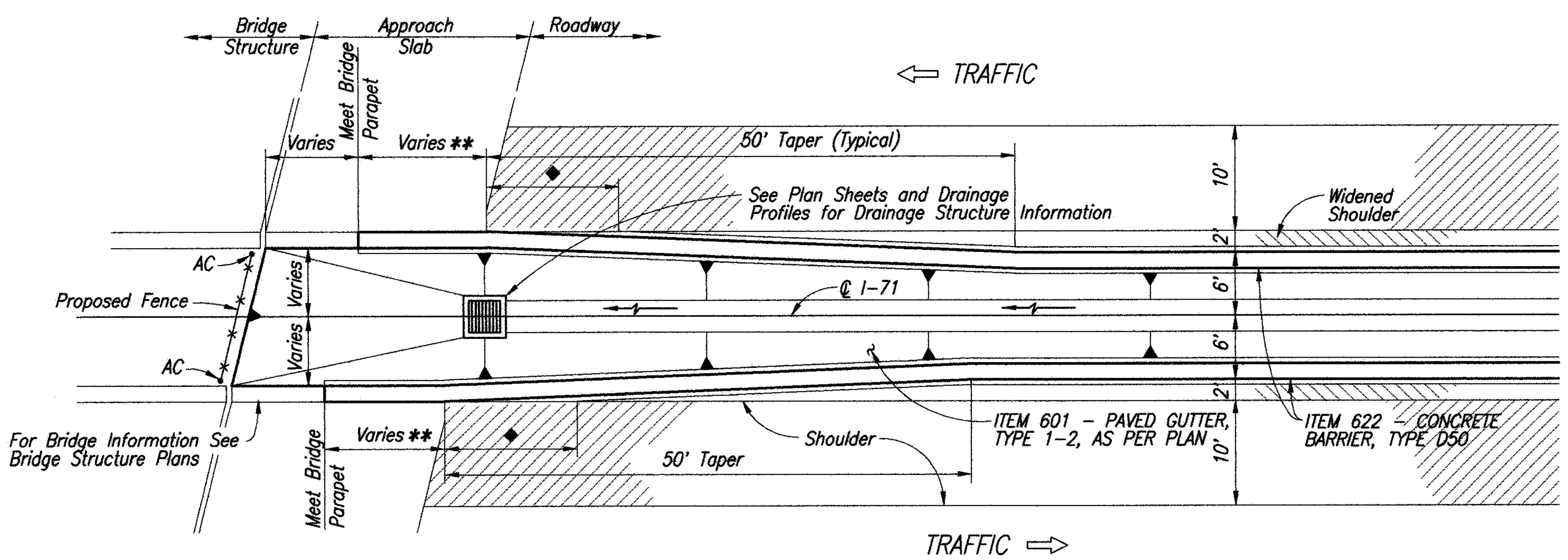
(SECTION 1)

SCALE: 1/2" = 1'-0"



IMPACT ATTENUATOR PAD DETAIL FOR HEX FOAM SANDWICH SYSTEM

SCALE: 1/4" = 1'-0"



MEDIAN CONCRETE BARRIER TAPER @ MAINLINE BRIDGES DETAIL (SECTION 2)

FOR FURTHER INFORMATION, SEE TYPICAL SECTIONS AND STANDARD DRAWING MC-9.

** Omit the Front 6" of the Concrete Barrier Foundation to Accomodate the Approach Slab.

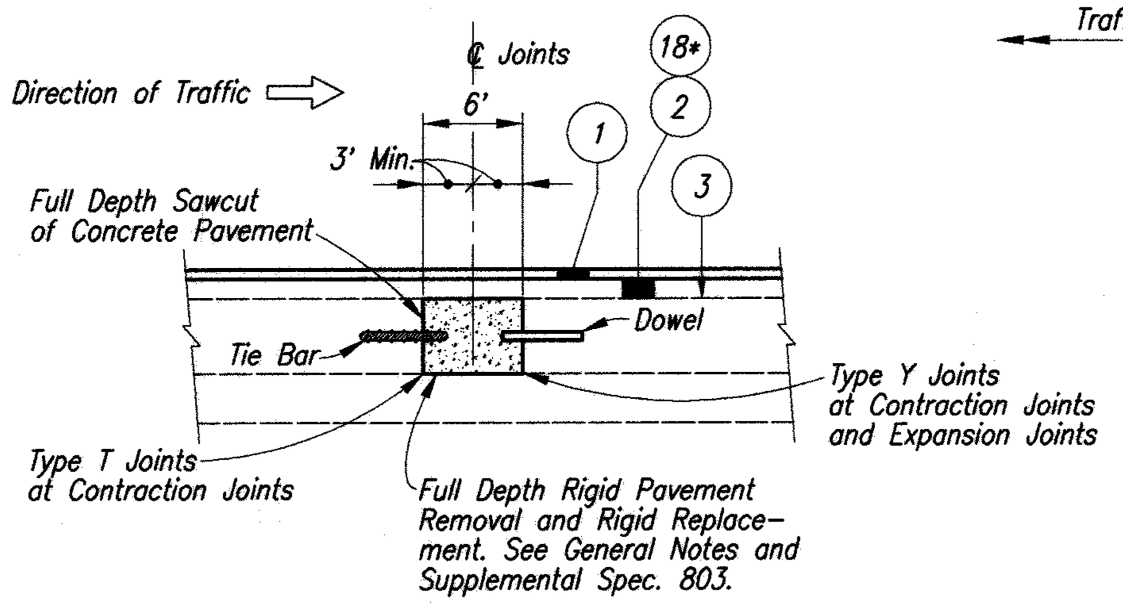
SCALE: 1" = 10'-0"

◆ Transition the Barrier Foundation from 6" to 0" Within 10' Prior to the Begining of the Approach Slab

NOTES

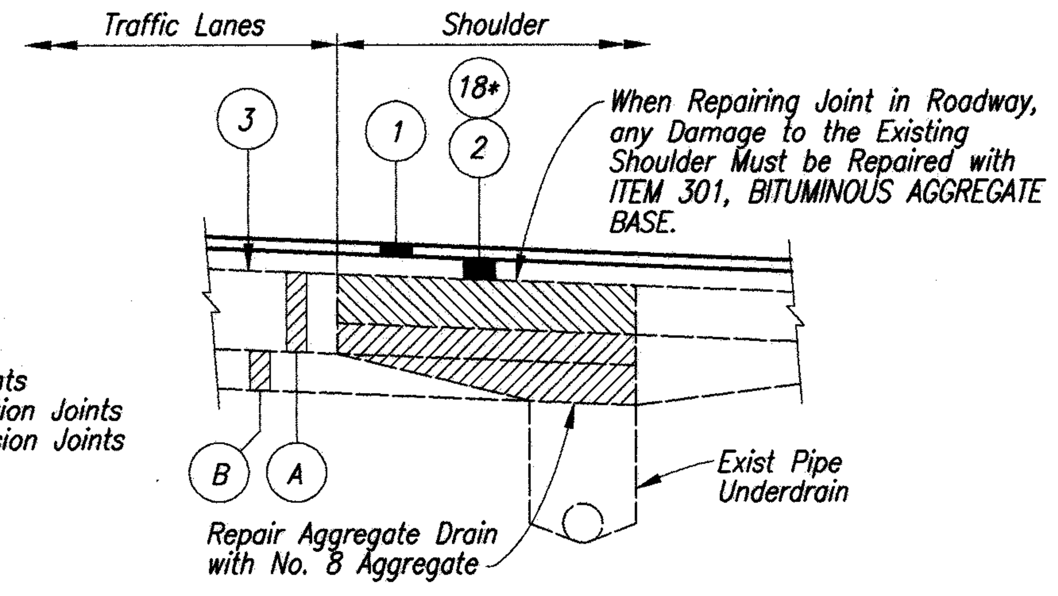
1) For SECTION 1 Item Legend Information, See Sheet 6. For SECTION 2 Item Legend Information, See Sheet 15.
2) (18*) * Indicates a SECTION 2 Item Description.
3) ● Indicates a 1/4" Drop, This is Typical at all Locations Where a Concrete Barrier is Placed Adjacent to Proposed Pavement Overlay.
4) For Additional Information Pertaining to Concrete Barriers, See Standard Drawings GR-8 and MC-9.3.
5) All Reinforcing Steel shall be Epoxy Coated As Per 509.10, Grade 60, and Paid for Under the Type of Concrete Barrier it Is Being used in. All Rebars Shall Have a Minimum of 2" Clearance. For Further Information, See Standard Drawings MC-9.3, I-3A & B, and GR-8.
6) "MSMCO" Stands For ITEM SPECIAL, MICRO-SILICA MODIFIED CONCRETE OVERLAY.
7) Contractor shall Exercise Caution to Ensure that these and other Bars are not Damaged During the Concrete Removal Operation. Any Bars Damaged as a Result of the Contractor's Operation shall be Replaced or Repaired by the Contractor at His Expence. Method of Repair or Replacement will be at the Discretion of the Engineer.
8) For SECTION 1 Typical Sections, See Sheets 7-13. For SECTION 2 Typical Sections, See Sheets 14-17.

CALC. BY DLB DATE 9-23-94 / CHKD. BY PWP DATE 10-4-94	HAM-71-1.30/9.00	OHIO FHWA REGION 5	20/401



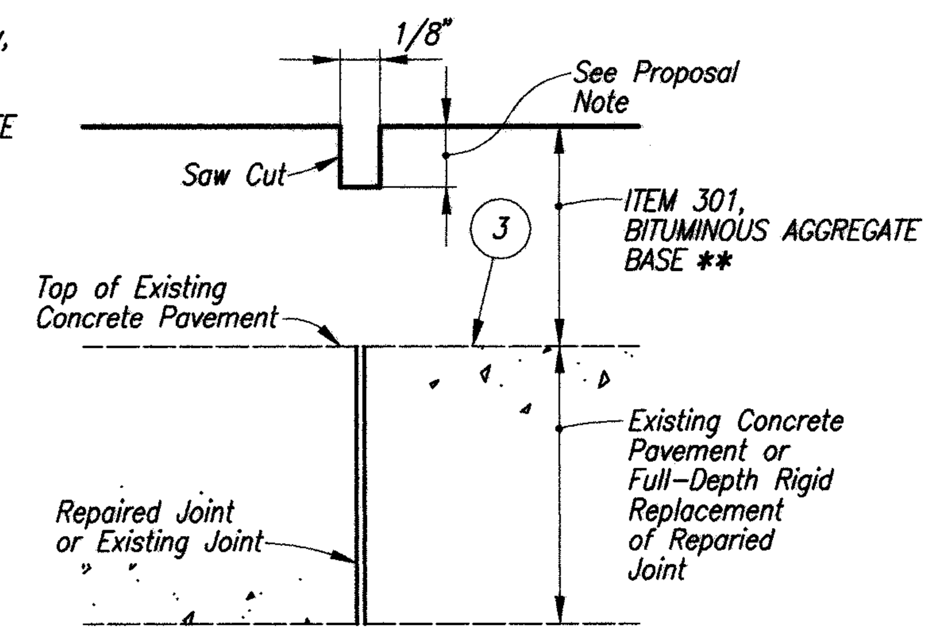
SECTION A-A

NOT TO SCALE



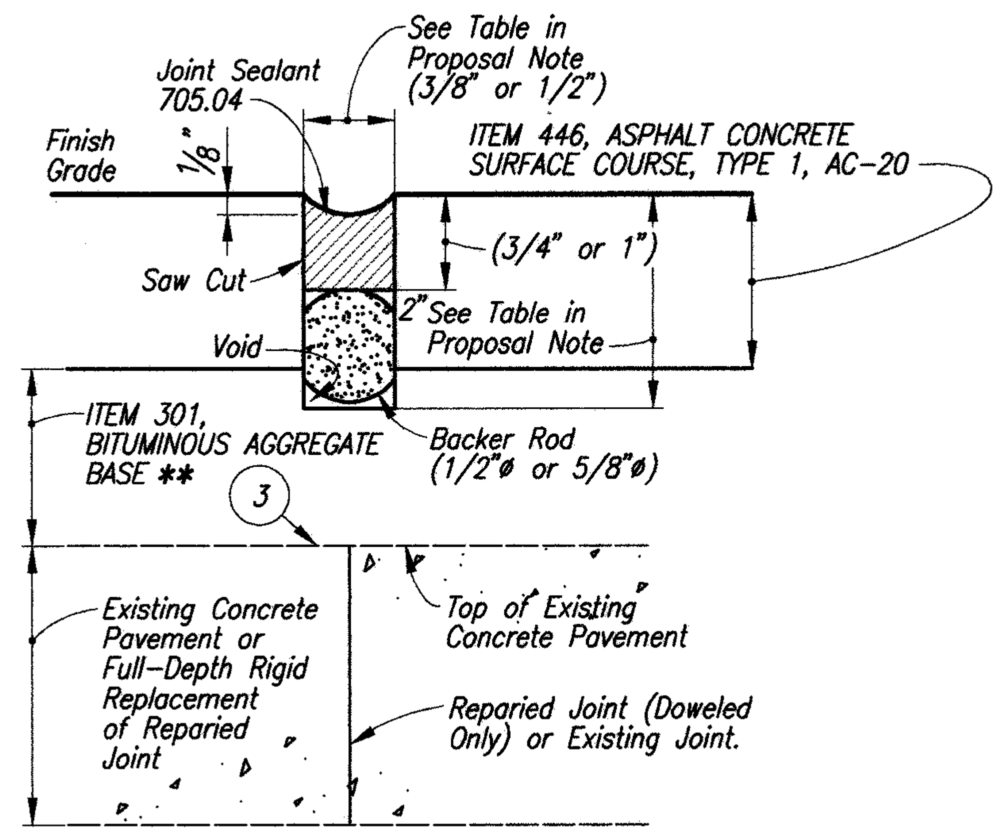
SECTION B-B

NOT TO SCALE



BASE COURSE

NOT TO SCALE



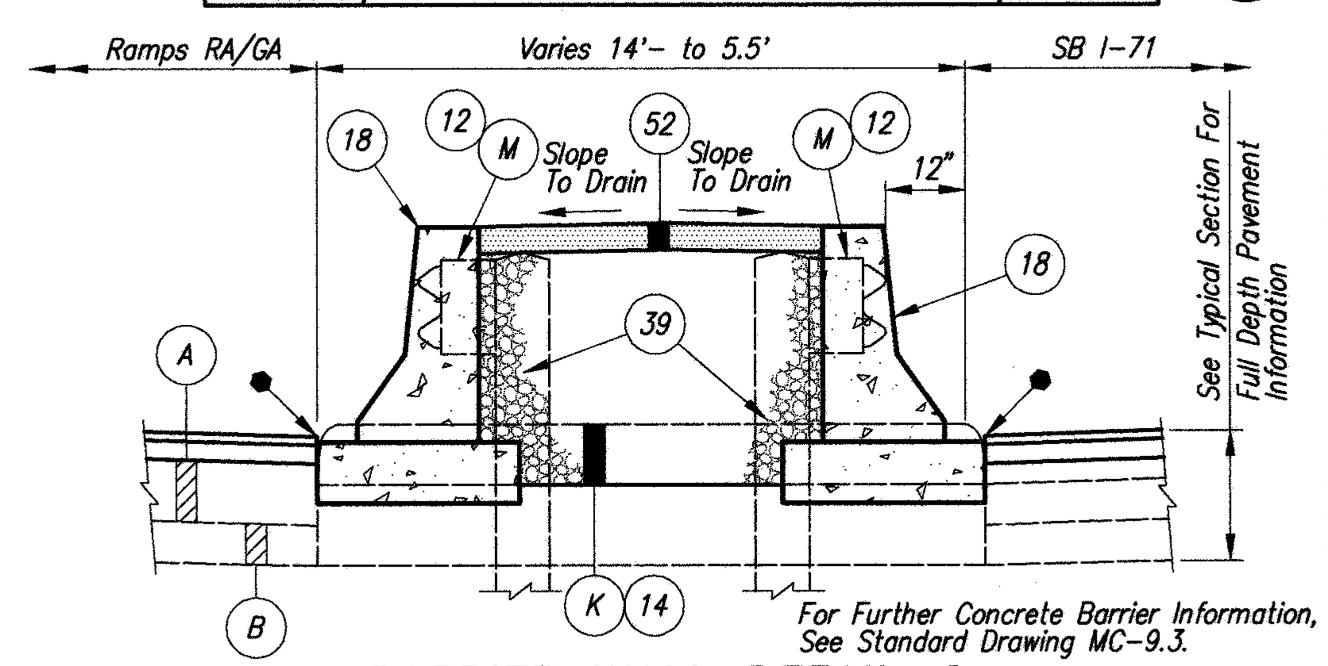
FINISH SURFACE

NOT TO SCALE

** ITEM 446, ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20 to be Used on on Ramps instead of ITEM 301, See Typical Sections for Further Information.

ITEM ~~SPECIAL~~ 413 -SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS-705.04

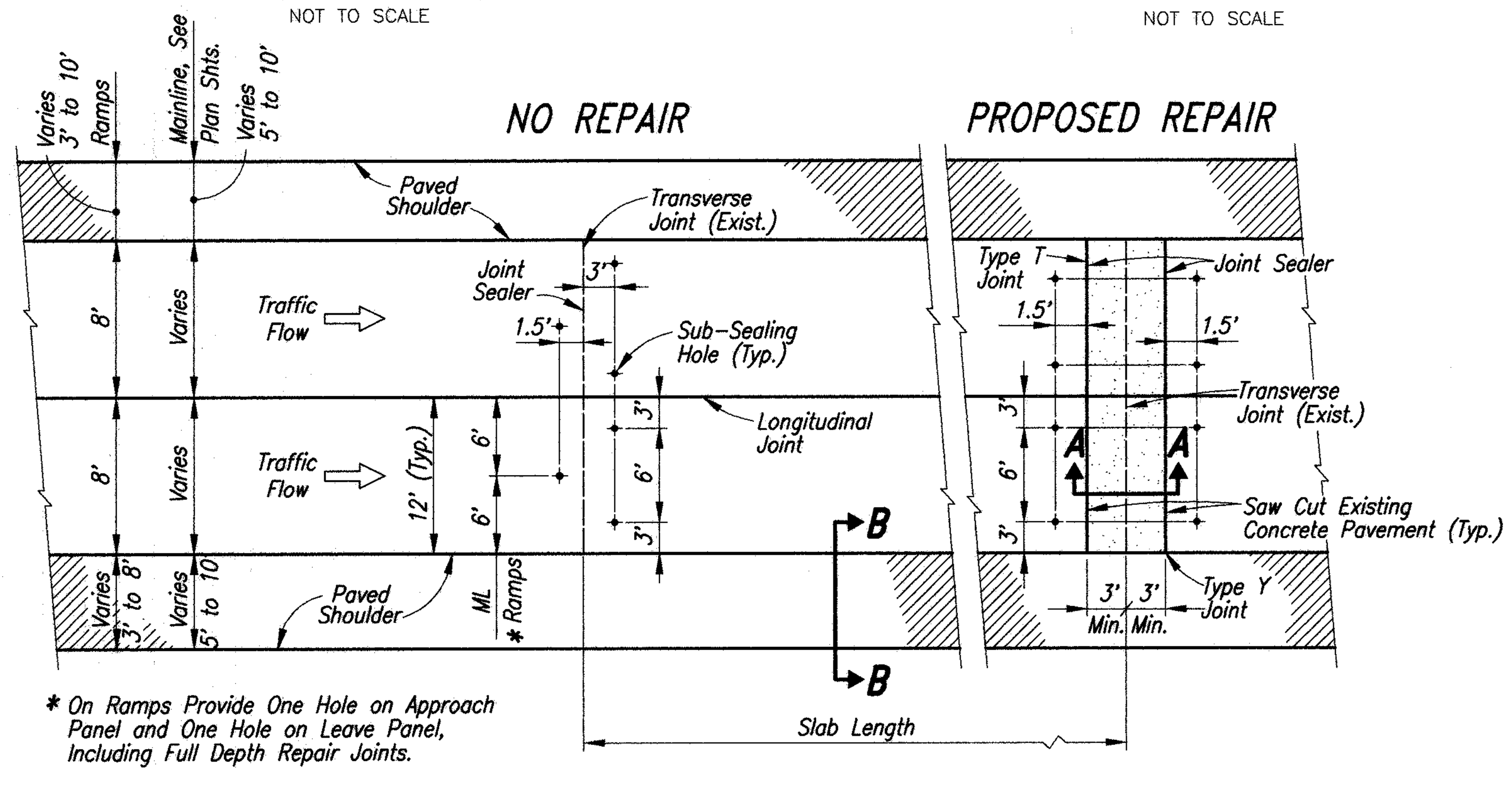
(SEE NOTE IN PROPOSAL)



BARRIER WALL DETAIL @ S.B. I-71 & RAMP RA/GA

Sta. 195+42.75SB to Sta. 196+40.40SB

SCALE: 1/2" = 1'-0"

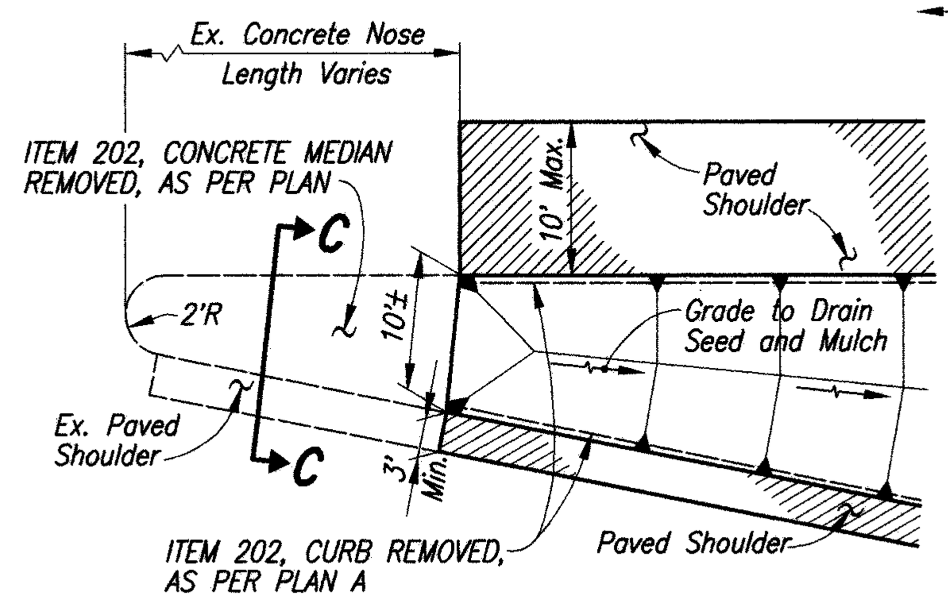


* On Ramps Provide One Hole on Approach Panel and One Hole on Leave Panel, Including Full Depth Repair Joints.

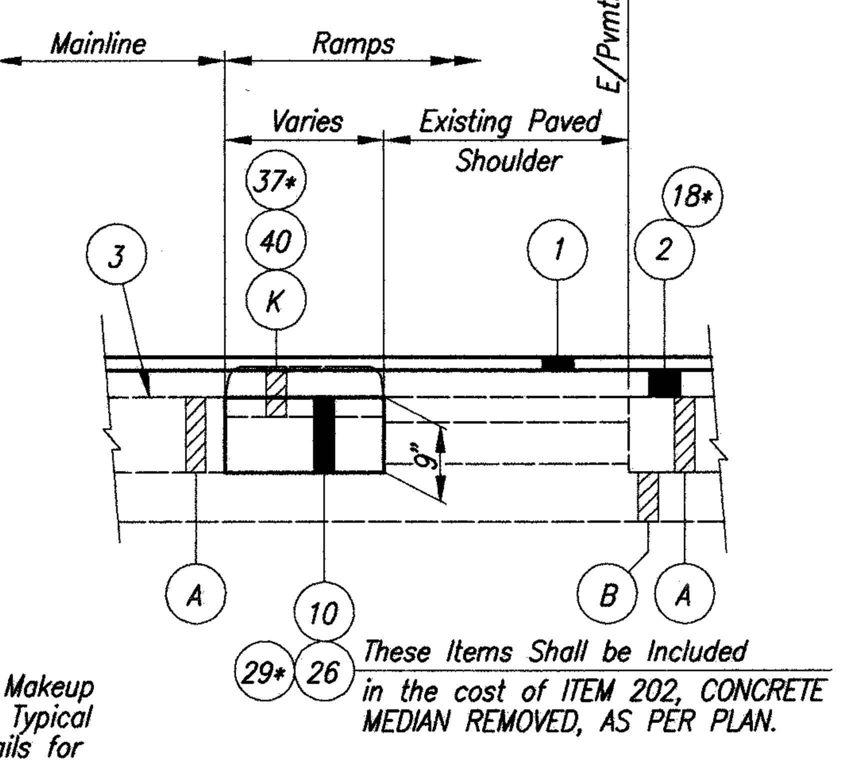
SUBSEALING HOLE PATTERN AND JOINT REPAIR DETAIL

NOT TO SCALE

NOTES:
1) Above Detail Shows Suggested Sub-Sealing Hole Patterns at Existing Transverse Joint Locations. These Hole Patterns are Subject to Change as Directed by the Engineer.
2) For Additional Joint Repair Details, See Standard Drawing BP-2.1, BP-2.2, and BP-2.5.
3) For Sub-Sealing Information, See Supplemental Specification 812.
3) Sub-Sealant to be Completed Prior to Installation of Adjacent Underdrains or Edge Drains.



PLAN VIEW

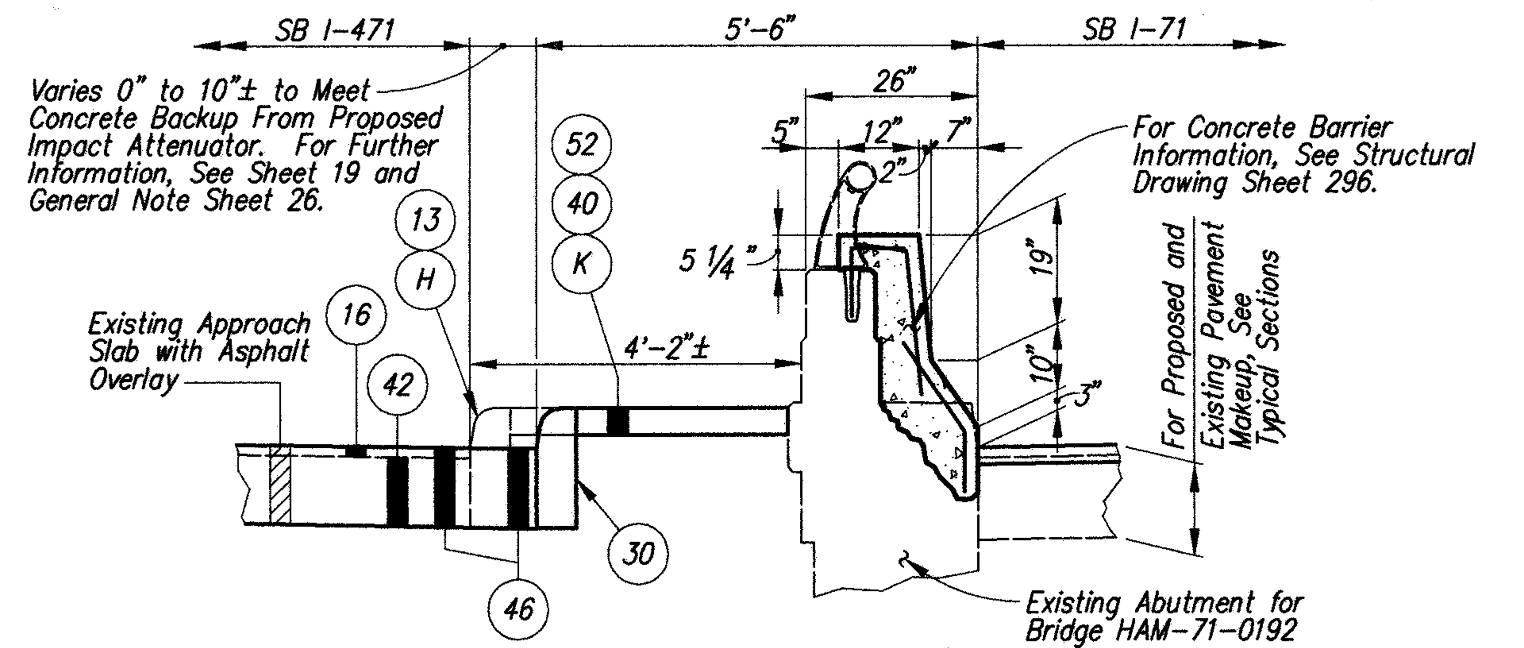


SECTION C-C

NOTE: Proposed Pavement Overlay Makeup may vary, See Plan Sheets, Typical Sections and Pavement Details for Further Information.

TYPICAL CONCRETE NOSE REMOVAL DETAIL

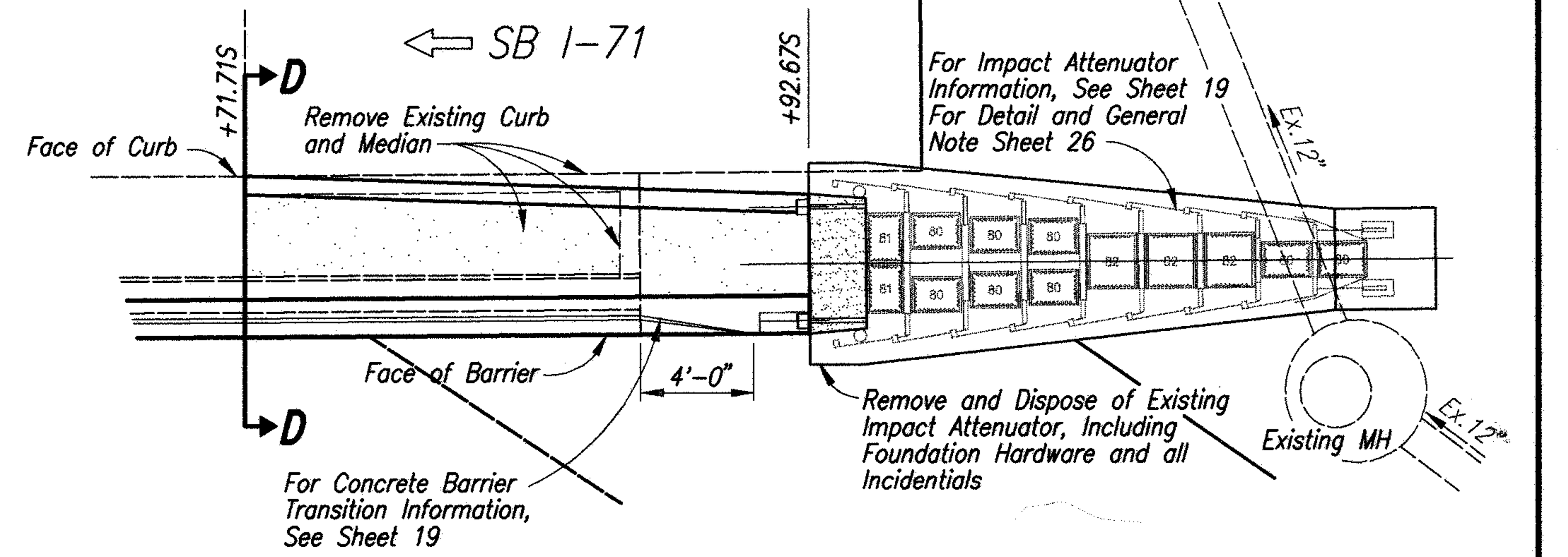
NOT TO SCALE



SECTION D-D

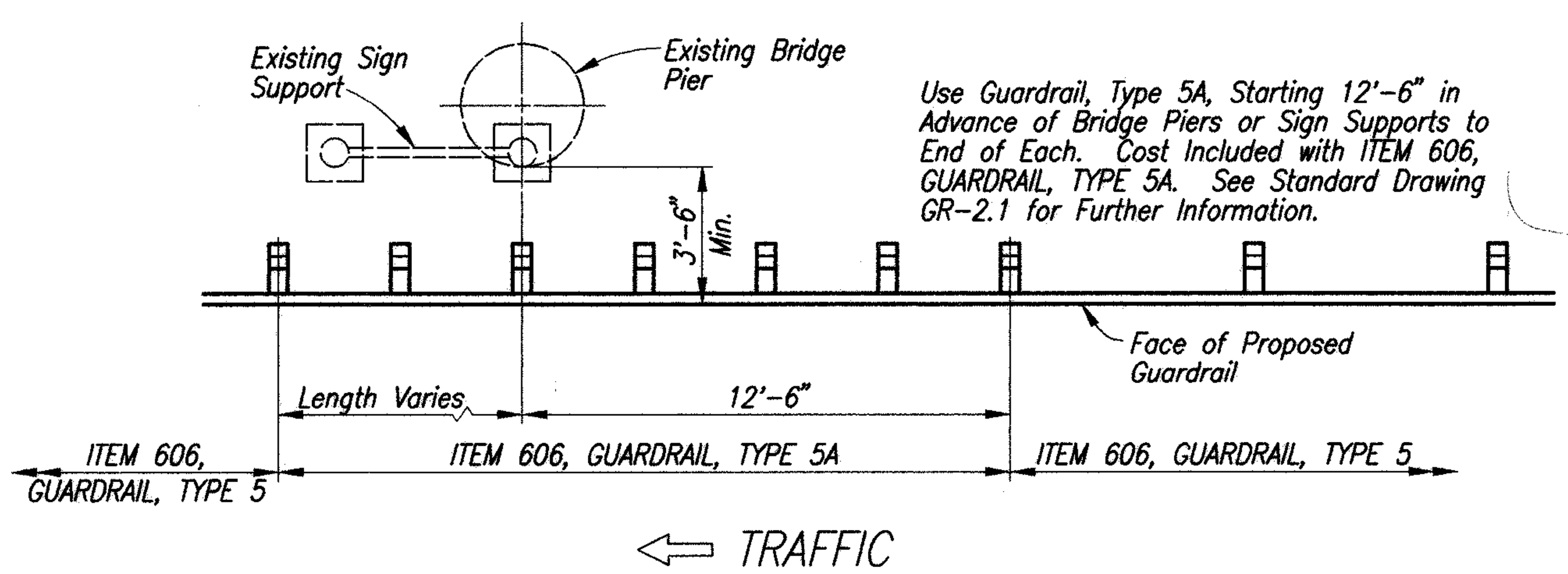
Sta. 161+71.71S to Sta. 161+92.67S

SCALE: 1/2" = 1'-0"



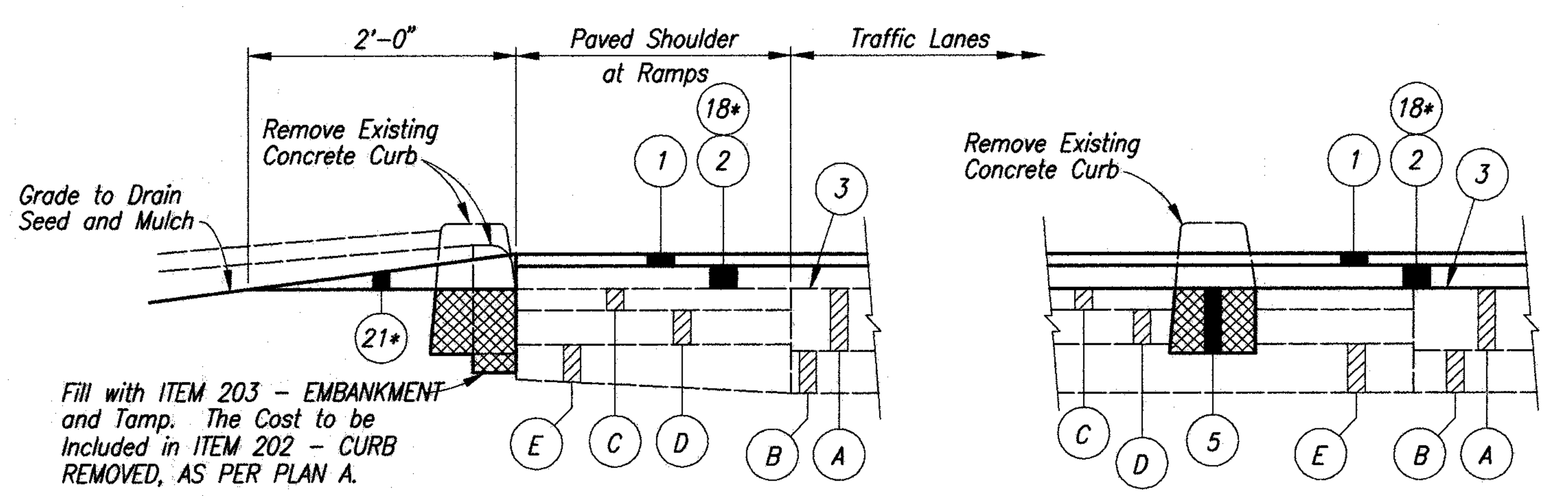
CONCRETE MEDIAN TRANSITION @ S.B. I-71 & S.B. I-471

SCALE: 1" = 5'-0"



GUARDRAIL POST DETAIL AT EXISTING BRIDGE PIERS OR SIGN SUPPORT USING 3'-1 1/2" POST SPACING

SCALE: 1/4" = 1'-0"



ITEM 202 - CURB REMOVED, AS PER PLAN A

ITEM 202 - CURB REMOVED, AS PER PLAN B

TYPICAL CURB AND BARRIER CURB REMOVAL DETAILS

NOT TO SCALE

NOTES

1) For SECTION 1 Item Legend Information, See Sheet 6.
2) 18* * Indicates A SECTION 2 Item Description. For SECTION 2 Item Legend Information, See Sheet 15.
3) "MSMCO" Stands For ITEM SPECIAL, MICRO-SILICA MODIFIED CONCRETE OVERLAY.

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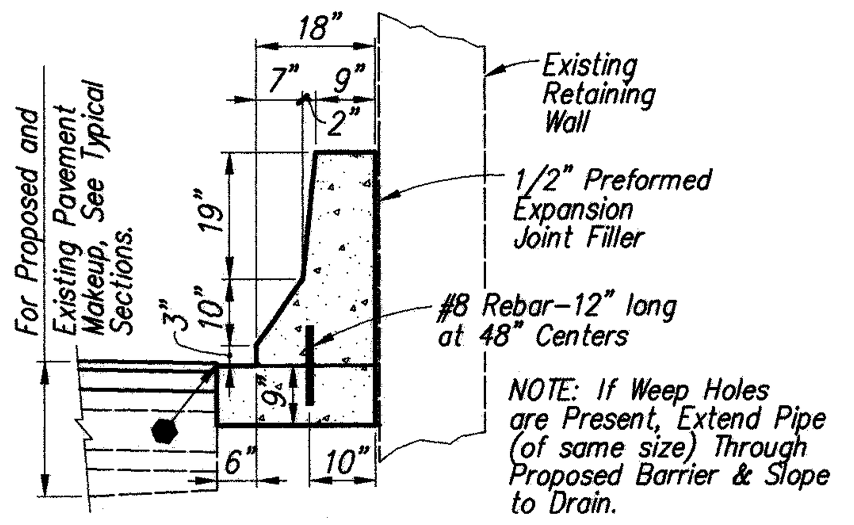
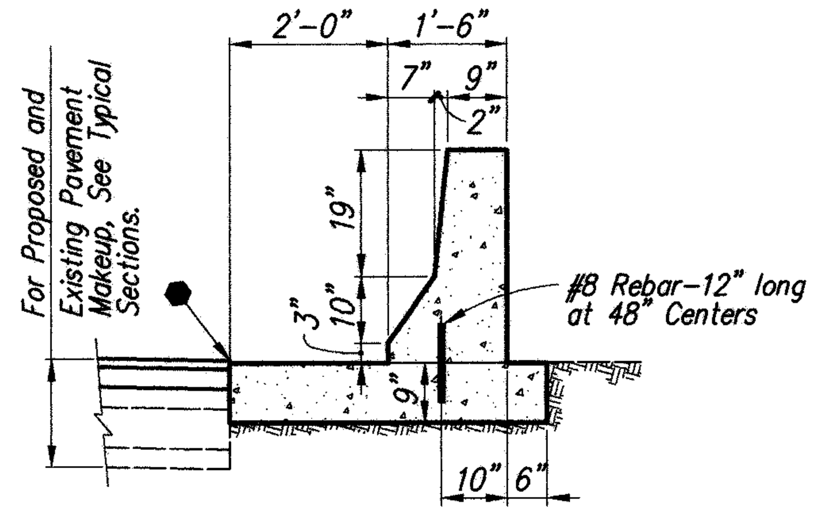
MISCELLANEOUS DETAILS

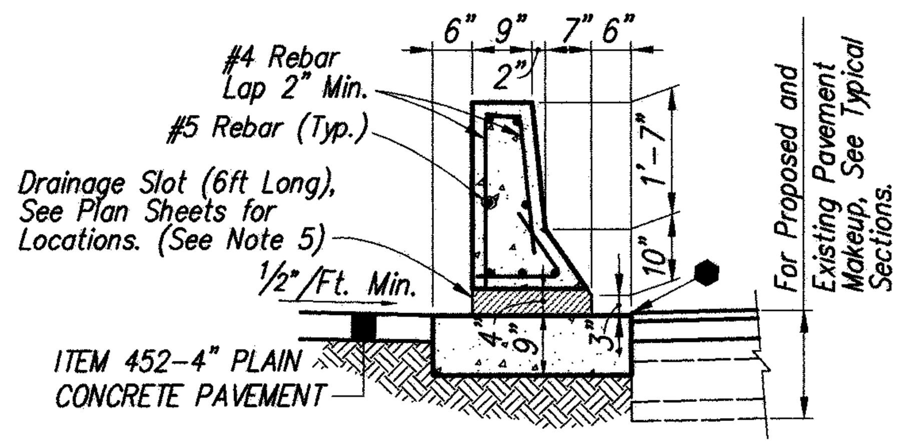
SCALE: 1/2" = 1'-0"



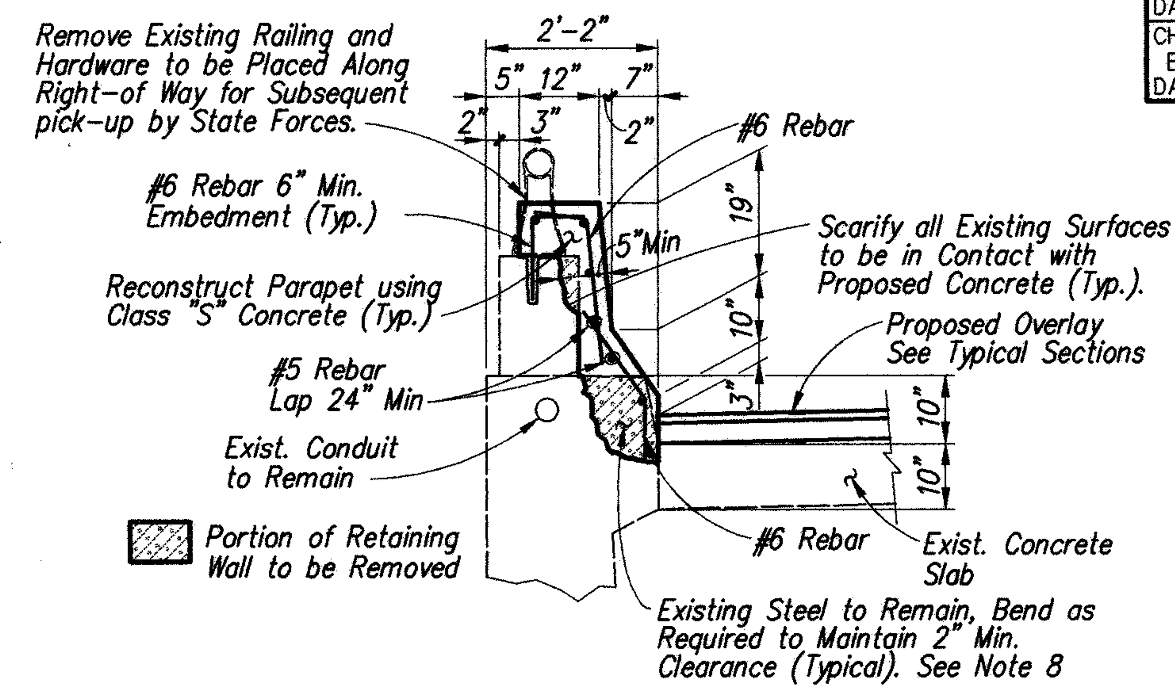
CONCRETE BARRIER, TYPE D, AS PER PLAN



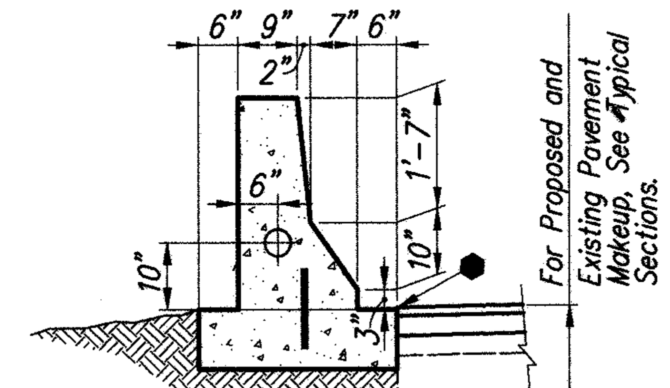
CONCRETE BARRIER, TYPE D, AS PER PLAN A



CONCRETE BARRIER WITH DRAINAGE SLOT DETAIL

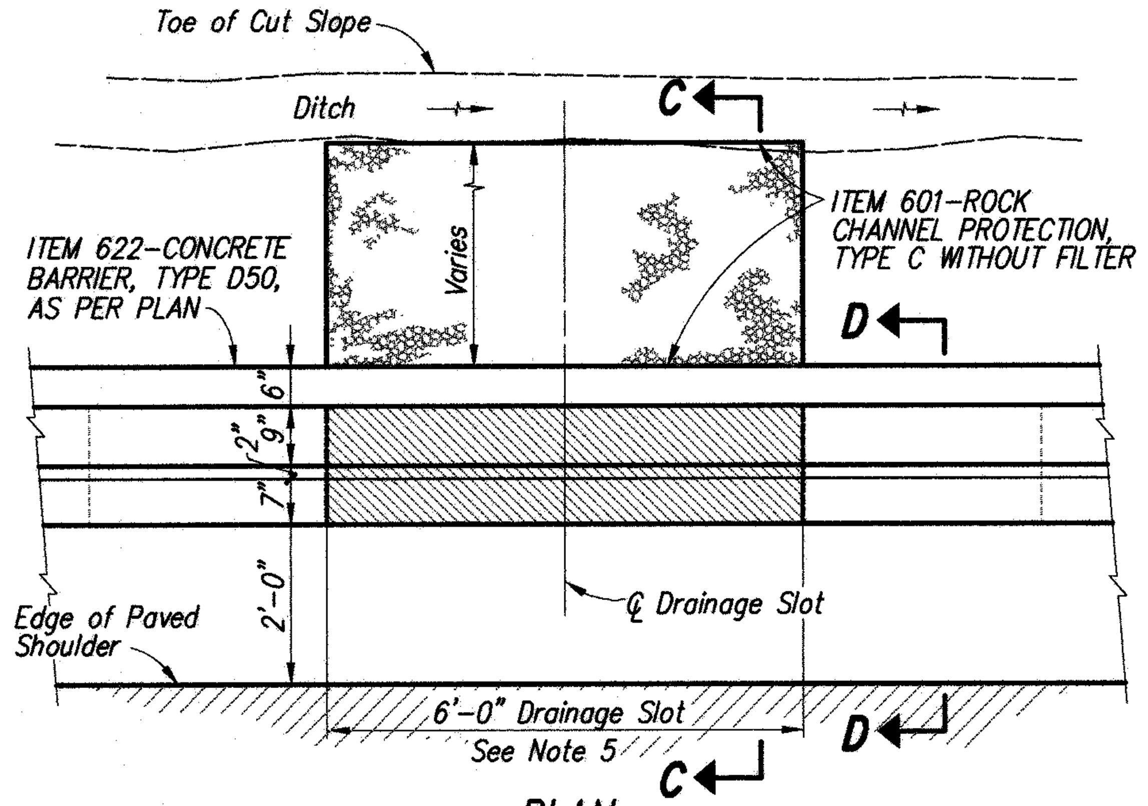


CONCRETE BARRIER, TYPE D, AS PER PLAN B

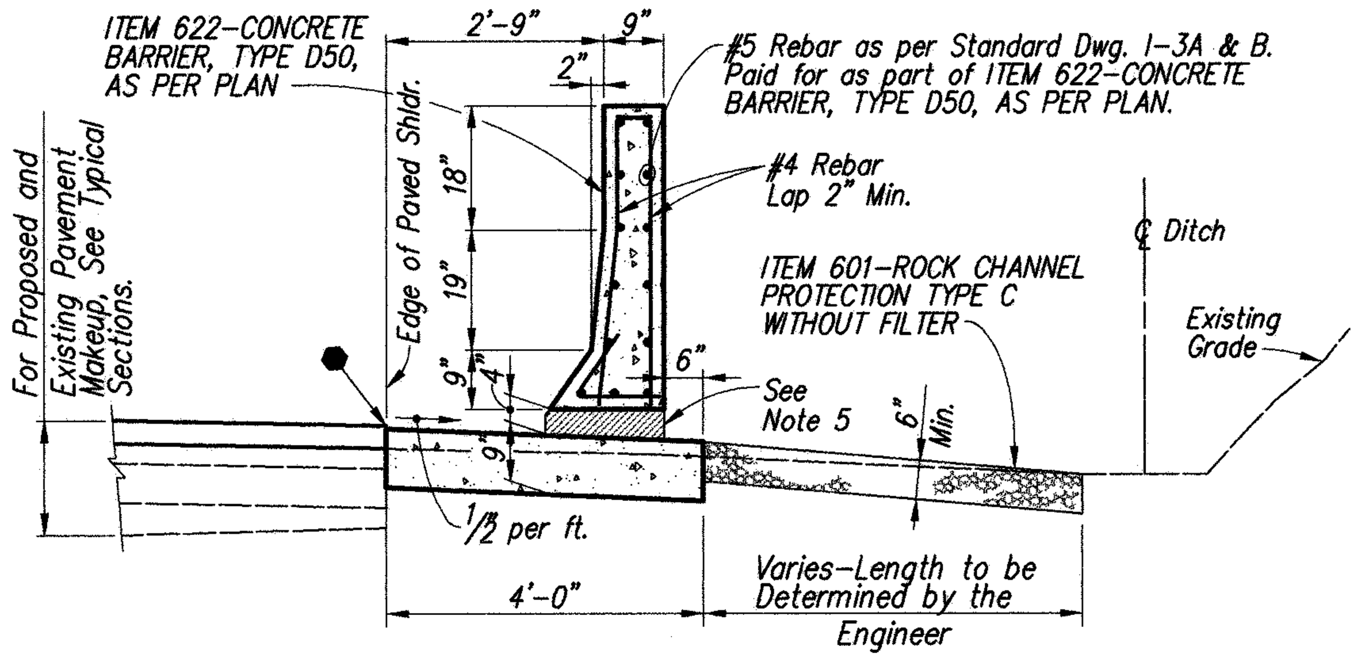


CONCRETE BARRIER, TYPE D WITH 4"⌀ LIGHTING CONDUIT

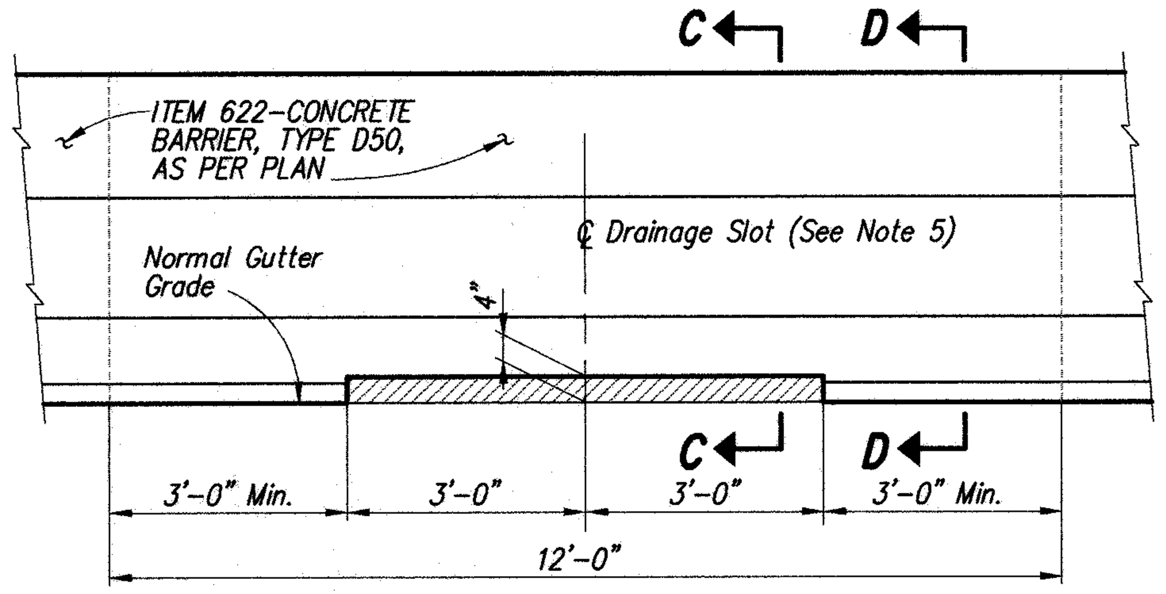
SEE GENERAL NOTE ON SHEET 25



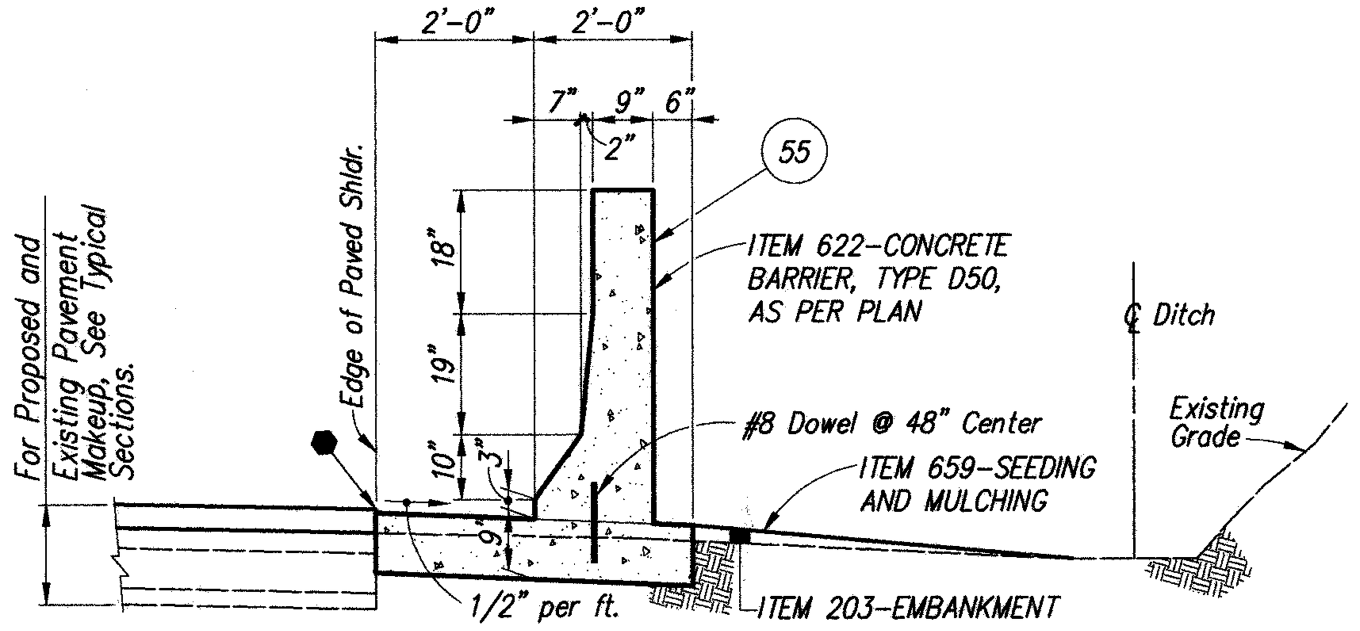
PLAN



SECTION C-C

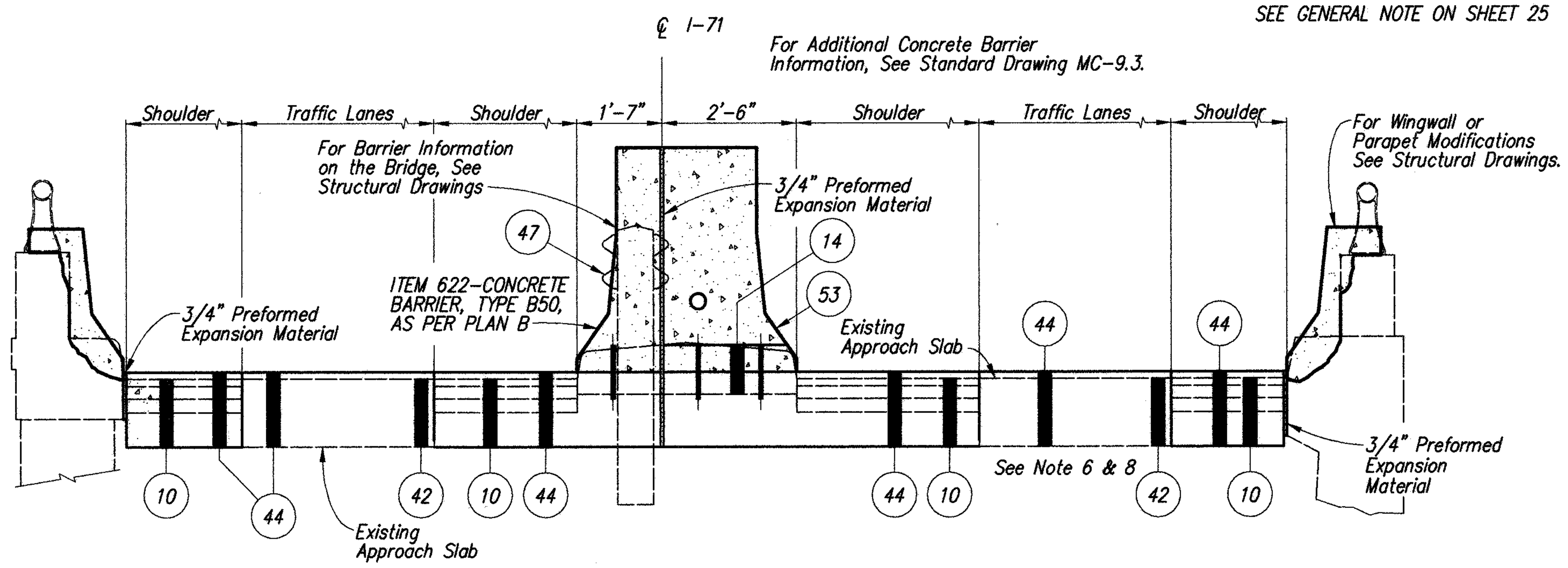


PROFILE



SECTION D-D

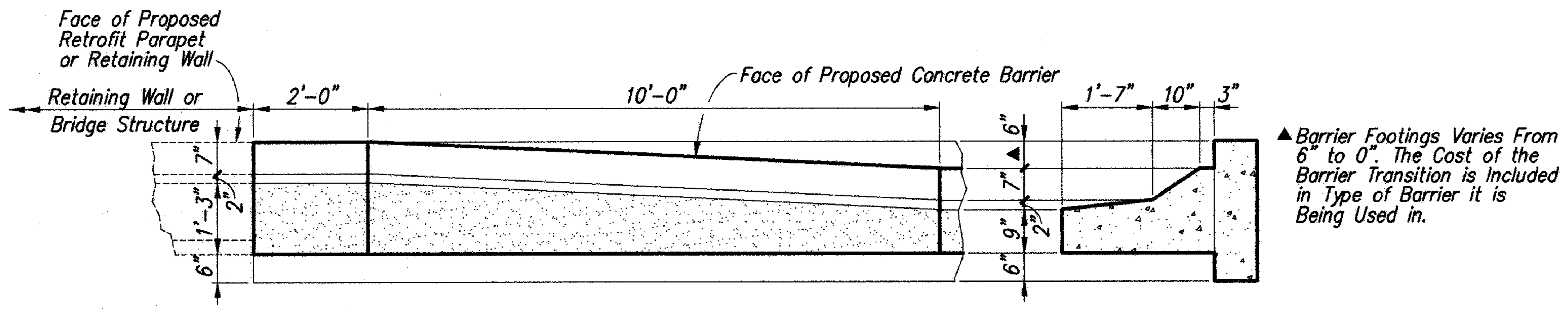
CONCRETE BARRIER, TYPE D50, AS PER PLAN



CONCRETE BARRIER AT BRIDGE LOCATIONS (SECTION 1)

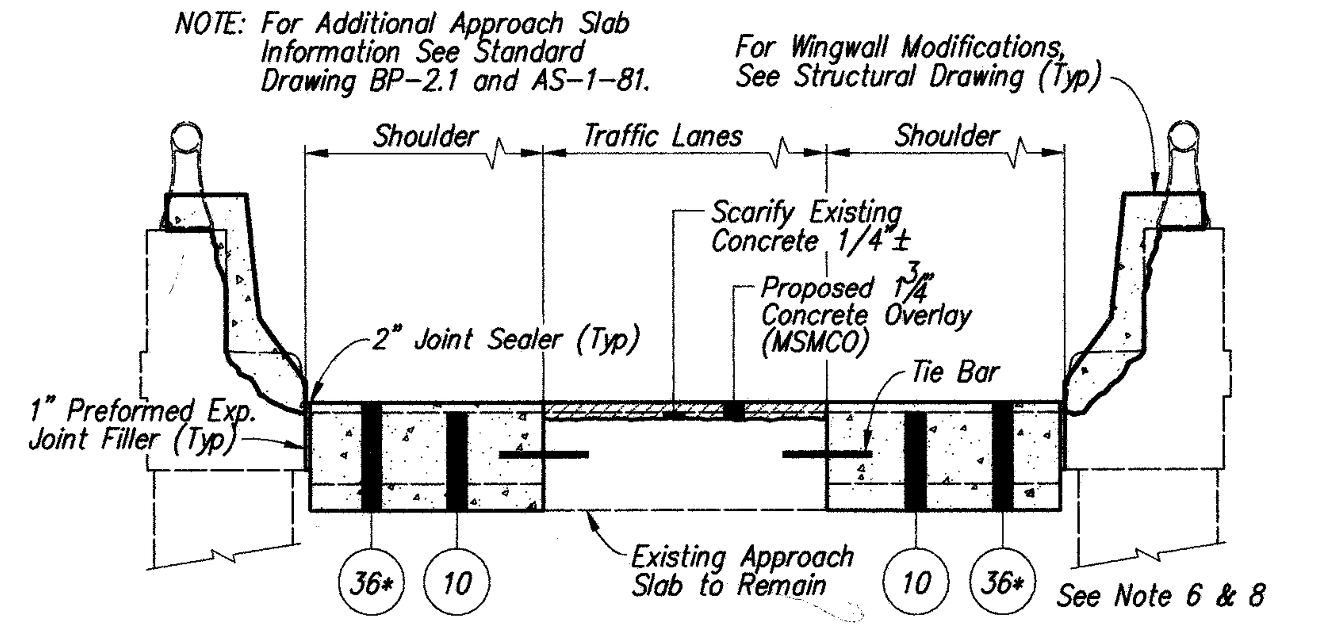
NOT TO SCALE

HAM-71-0154 R/L	Sta. 137+44.55SB to Sta. 137+69.55SB	
	Sta. 139+33.35NB to Sta. 139+58.35NB	
	Sta. 149+96.72 ℄ to Sta. 150+21.72 ℄	
HAM-71-0192 R/L	Sta. 159+15.79 ℄ to Sta. 159+40.79 ℄ (Opp. Hand)	
	Sta. 162+46.24 ℄ to Sta. 162+71.24 ℄ (Opp. Hand)	



CONCRETE BARRIER TRANSITION AT RETAINING WALLS & BRIDGE ABUTMENTS

HAM-71-0154R		Right Forward Abutment	HAM-71-0243R	(NB I-71)	Left Forward Abutment
HAM-71-0154R	(Ramp B)	Left Rear Abutment	HAM-42-0264R	(Ramps RA & GA)	Left/Right Rear Abutment
HAM-71-0192W	(SB I-471)	Left Forward Abutment	HAM-71-0154R		Right Forward Abutment
HAM-71-0192R/L	(I-71)	Right Forward Abutment	Retaining Wall No. 12	(SB I-71)	
HAM-71-0243L	(SB I-71)	Left Rear Abutment	Retaining Wall No. 35	(NB I-71)	
		Right/Left Forward Abutment	Retaining Wall No. 32	(RAMP RA/GA)	



WIDENED APPROACH SLAB DETAIL (SECTION 2)

NOT TO SCALE

HAM-71-0986 (RAMP A Over I-71)   HAM-71-0987 (RAMP C Over I-71)

NOTES

1) ● Indicates a 1/4" Drop, this is Typical at all Locations Where a Concrete Barrier is Placed Adjacent to Proposed Pavement Overlay.

2) For SECTION 1 Item Legend Information, See Sheet 6. For SECTION 2 Item Legend Information, See Sheet 15.

3) (18*) * Indicates a SECTION 2 Item Description.

4) For Additional Information Pertaining to Concrete Barriers, See Standard Drawings GR-8 and MC-9.3.

5) Drainage Slots Shall be Provided at the Following Locations:

SECTION 1: Sta. 133+32SB, Sta. 133+84SB and Sta. 134+25SB (Mainline-Left)

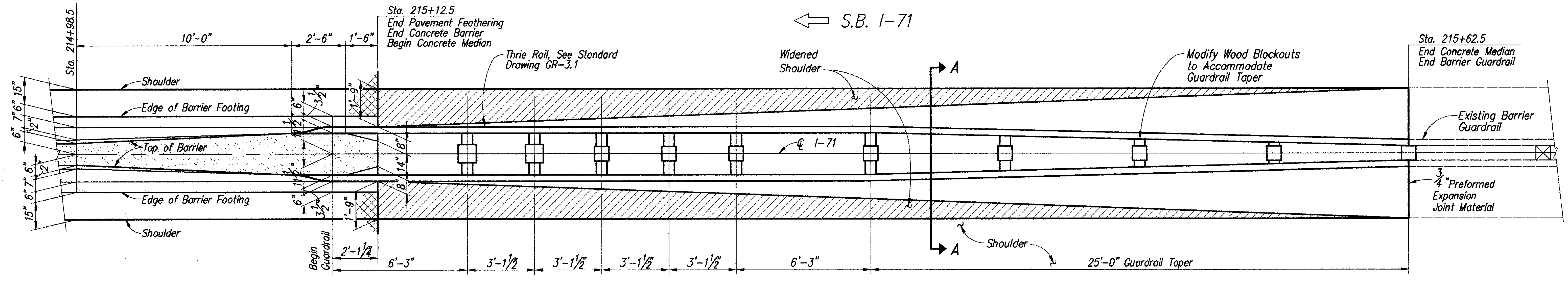
SECTION 2: Sta. 533+00 Rt/Lt., Sta. 536+00 Rt/Lt., and Sta. 539+00 Lt. (Mainline) Sta. 10+00F Lt., Sta. 12+00F Lt., and Sta. 14+00F Lt. (Ramp F at Stewart Road)

See Plan Sheet, at the Above Location, for the type of Concrete Barrier that the Drainage Slots will be Placed into. Payment For This Work Shall Be Included in The Concrete Barrier It Is Being Placed Into.

6) All Reinforcing Steel shall be Epoxy Coated As Per 509.10, Grade 60, and Paid for Under the Type of Concrete Barrier It Is Being used in. All Rebars Shall Have a Minimum of 2" Clearance. For Further Information, See Standard Drawings MC-9.3, I-3A & B, and GR-8.

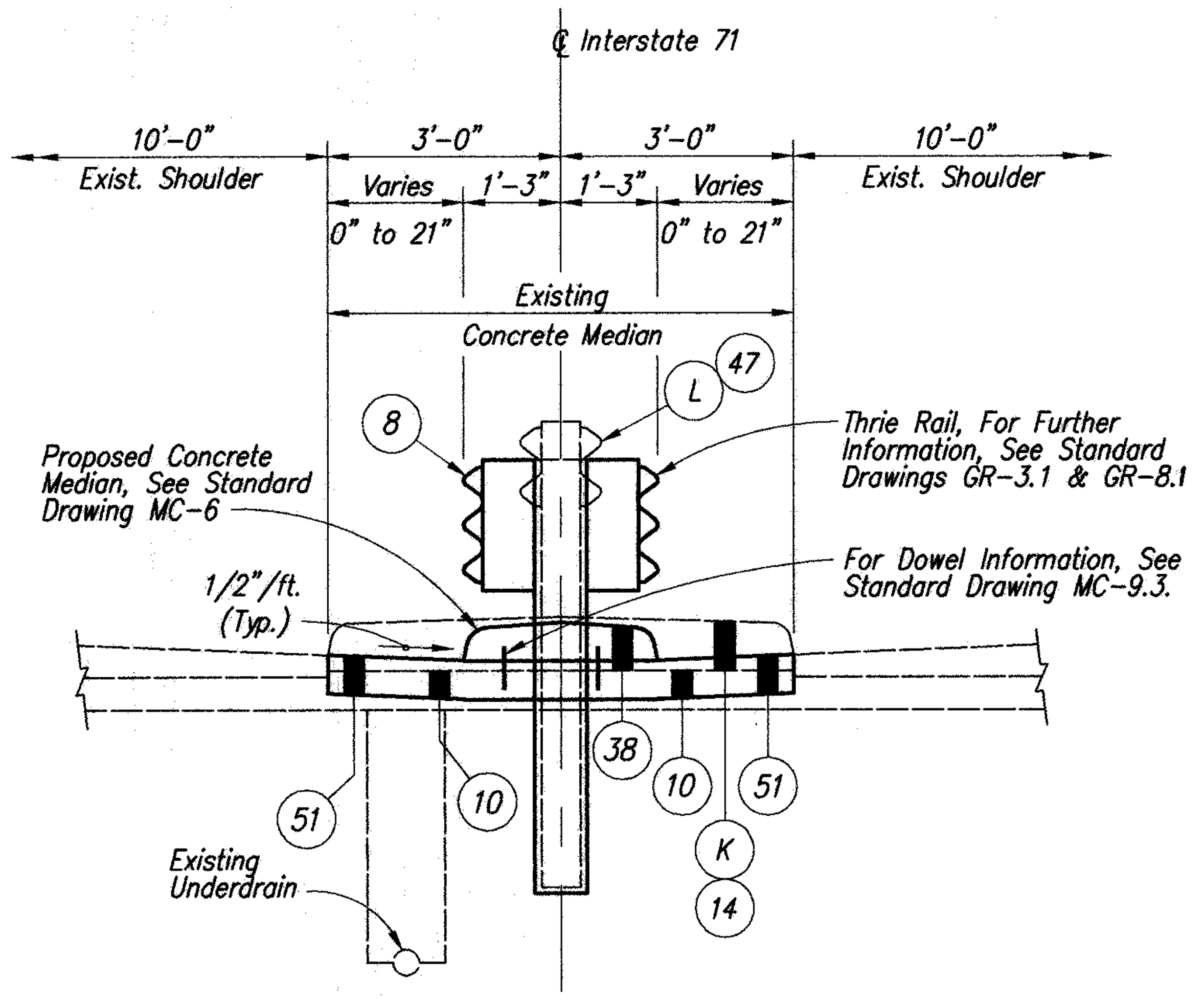
7) For SECTION 1 Typical Sections, See Sheets 7-13. For SECTION 2 Typical Sections, See Sheets 14-17.

8) Contractor shall Exercise Caution to Ensure that these and other Bars are not Damaged During the Concrete Removal Operation. Any Bars Damaged as a Result of the Contractor's Operation shall be Replaced or Repaired by the Contractor at His Expence. Method of Repair or Replacement will be at the Discretion of the Engineer.



MEDIAN DETAIL - STA. 214+98.50 to STA. 215+62.50

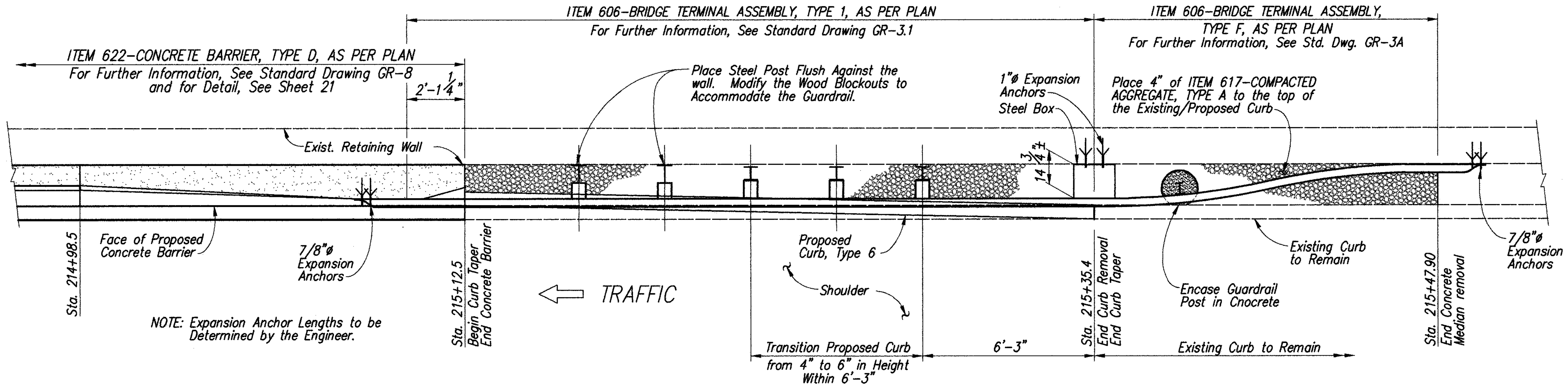
SCALE: 3/8" = 1'-0"



SECTION A-A

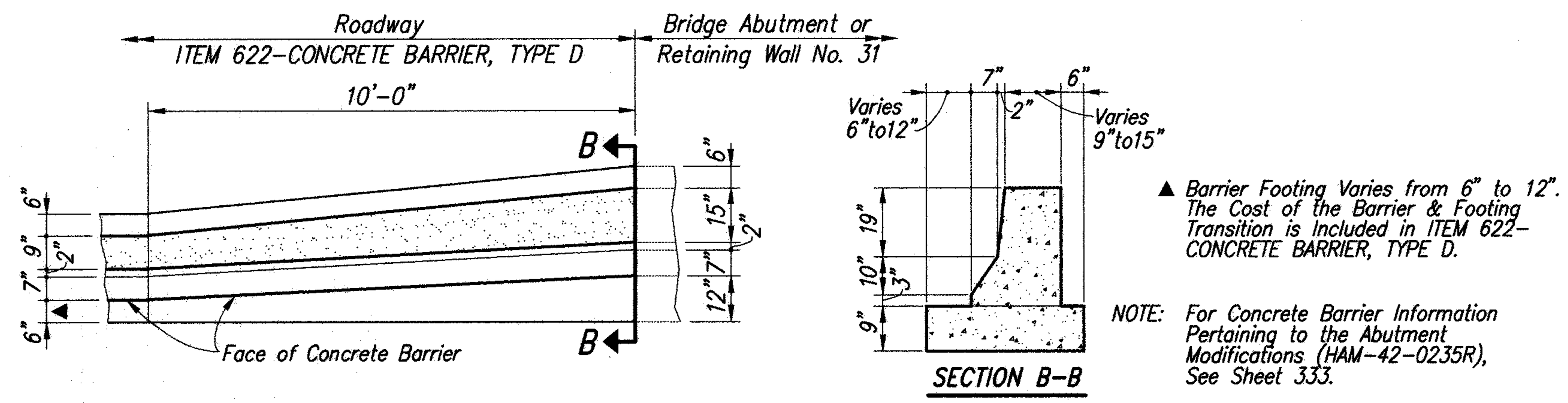
STA. 215+12.50 to STA. 215+62.50

SCALE: 1/2" = 1'-0"



MODIFIED GUARDRAIL END TERMINAL ASSEMBLIES @ STA. 214+98.50 SB I-71

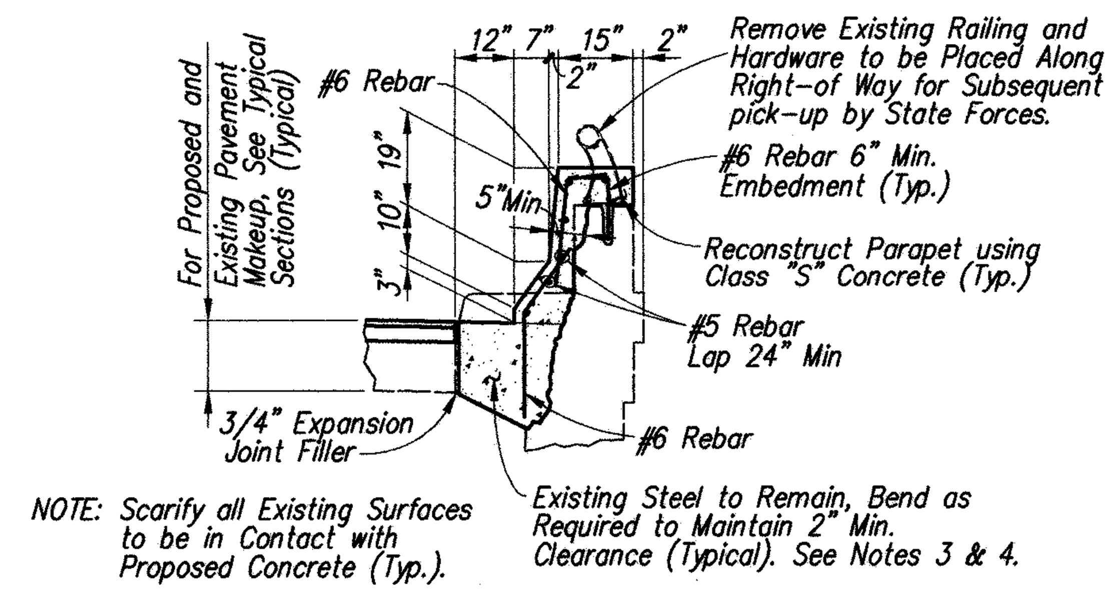
SCALE: 3/8" = 1'-0"



CONCRETE BARRIER TRANSITION @ BRIDGE ABUTMENT (HAM-42-0235R)

(RIGHT & LEFT FORWARD ABUTMENTS)

SCALE: 1/2" = 1'-0"



CONCRETE BARRIER, TYPE D, AS PER PLAN D

(RETAINING WALL No. 31 @ RIGHT/FORWARD ABUTMENT HAM-42-0235R BRIDGE)

SCALE: 1/2" = 1'-0"

NOTES

1) For SECTION 1 Item Legend Information, See Sheet 6.

2) For Additional Information Pertaining to Concrete Barriers, See Standard Drawings GR-8 and MC-9.3.

3) All Reinforcing Steel shall be Epoxy Coated As Per 509.10, Grade 60, and Paid for Under the Type of Concrete Barrier It Is Being used in. All Rebars Shall Have a Minimum of 2" Clearance. For Further Information, See Standard Drawings MC-9.3, I-3A & B, and GR-8.

4) Contractor shall Exercise Caution to Ensure that these and other Bars are not Damaged During the Concrete Removal Operation. Any Bars Damaged as a Result of the Contractor's Operation shall be Replaced or Repaired by the Contractor at His Expence. Method of Repair or Replacement will be at the Discretion of the Engineer.

5) For SECTION 1 Typical Sections, See Sheets 7-13.

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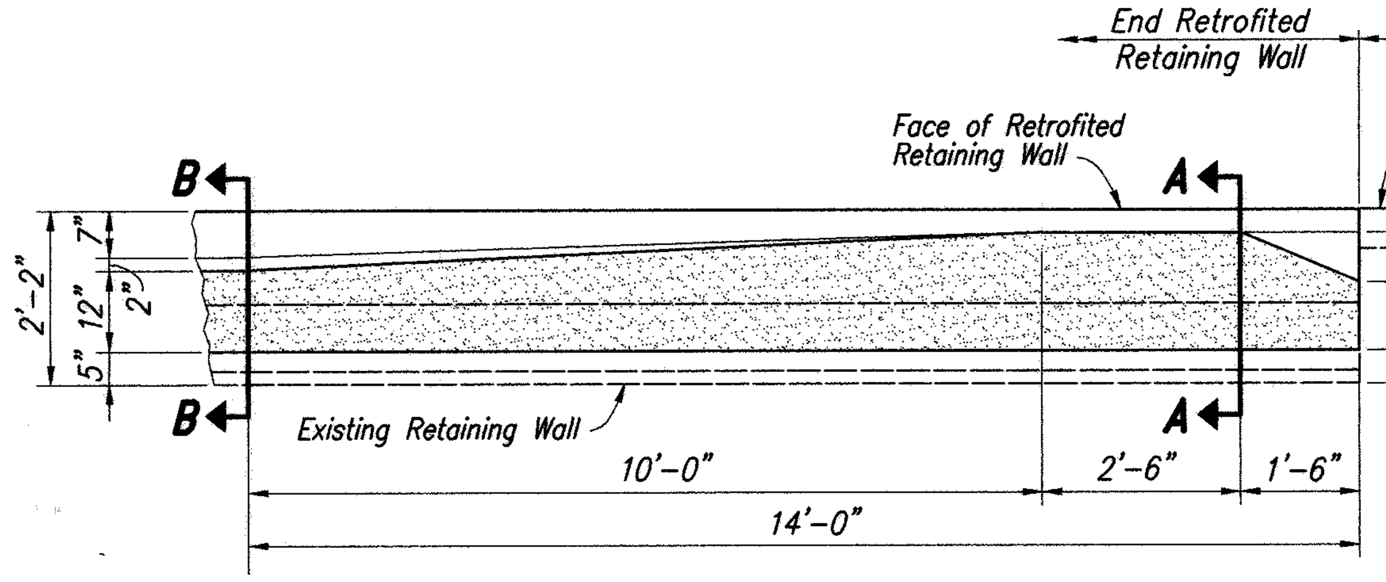
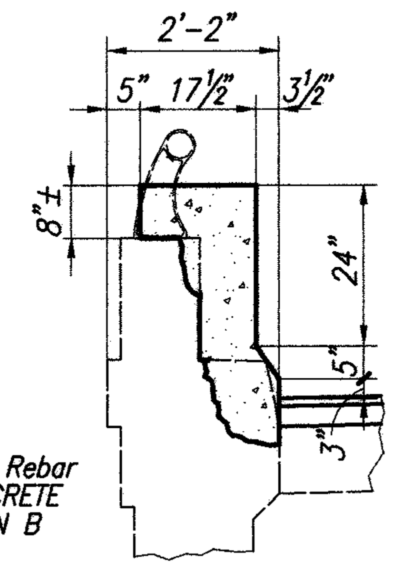
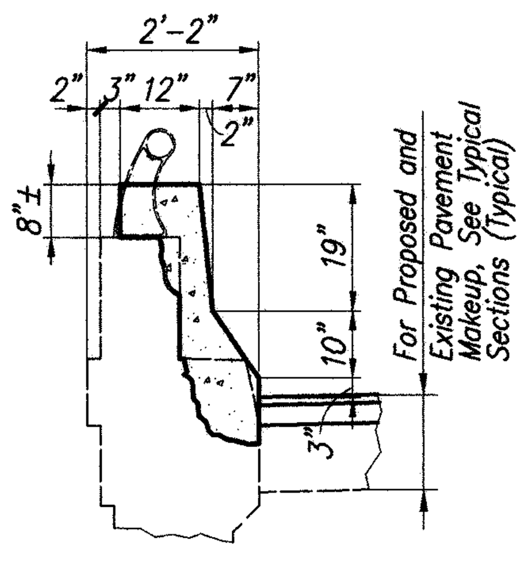




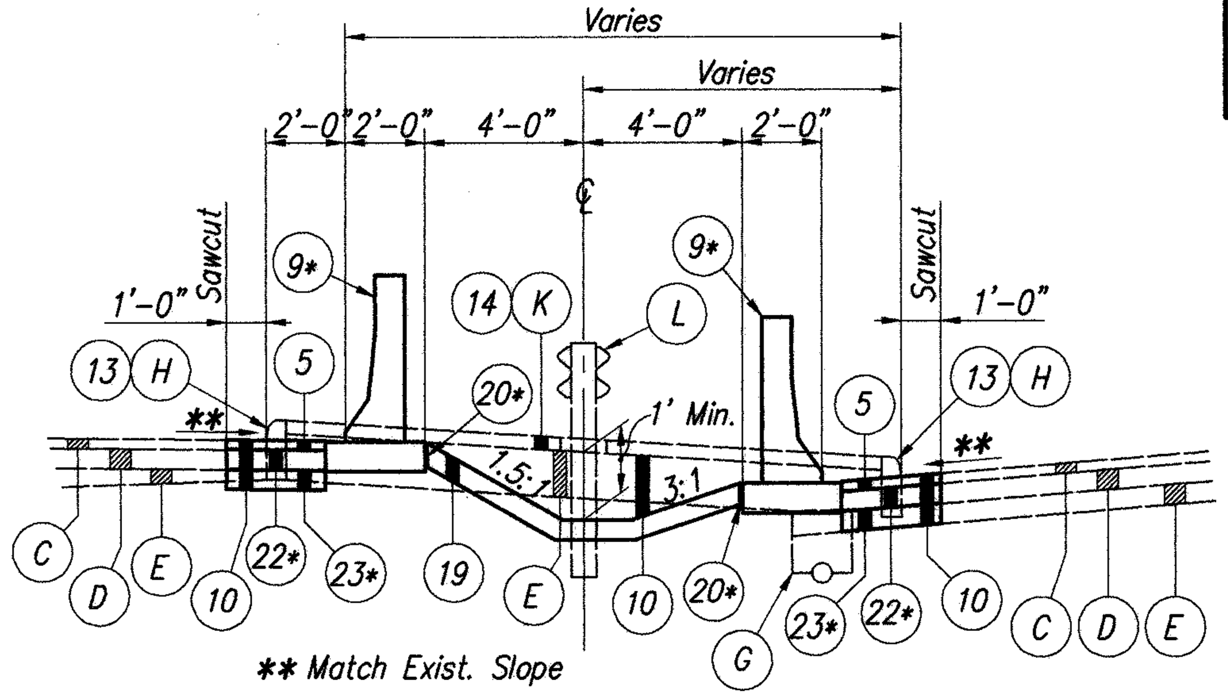
SECTION A-A



SECTION B-B

BARRIER TRANSITION DETAIL - CONCRETE BARRIER, TYPE D, AS PER PLAN B ON A RETAINING WALL

SCALE: 1/2" = 1'-0"



SECTION C-C

STA. 546+35.98 to STA. 547+36

SCALE: 1/4" = 1'-0"

NOTES

1) ● Indicates a 1/4" Drop, This is Typical at all Locations Where a Concrete Barrier is Placed Adjacent to Proposed Pavement Overlay.

2) For SECTION 2 Item Legend Information, See Sheet 15.

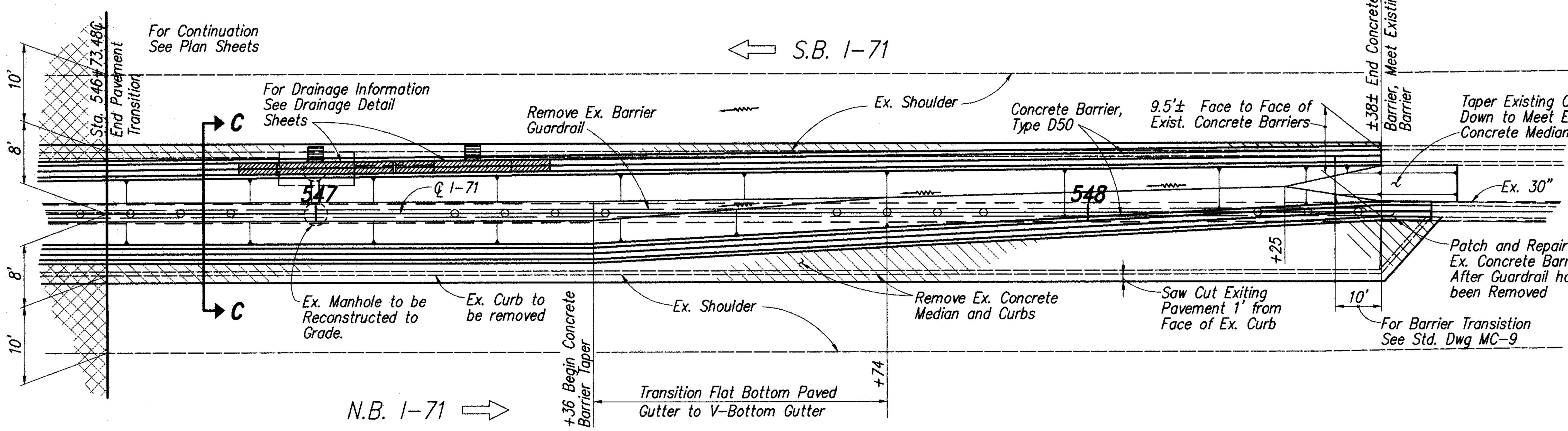
3) For Additional Information Pertaining to Concrete Barriers, See Standard Drawings GR-8 and MC-9.3.

4) All Reinforcing Steel shall be Epoxy Coated, Grade 60, and Paid for Under the Type of Concrete Barrier It is Being used in. All Rebars Shall Have a Minimum of 2" Clearance. For Further Information, See Standard Drawings MC-9.3, I-3A & B, and GR-8.

5) For SECTION 1 Typical Sections, See Sheets 7-13. For SECTION 2 Typical Sections, See Sheets 14-17.

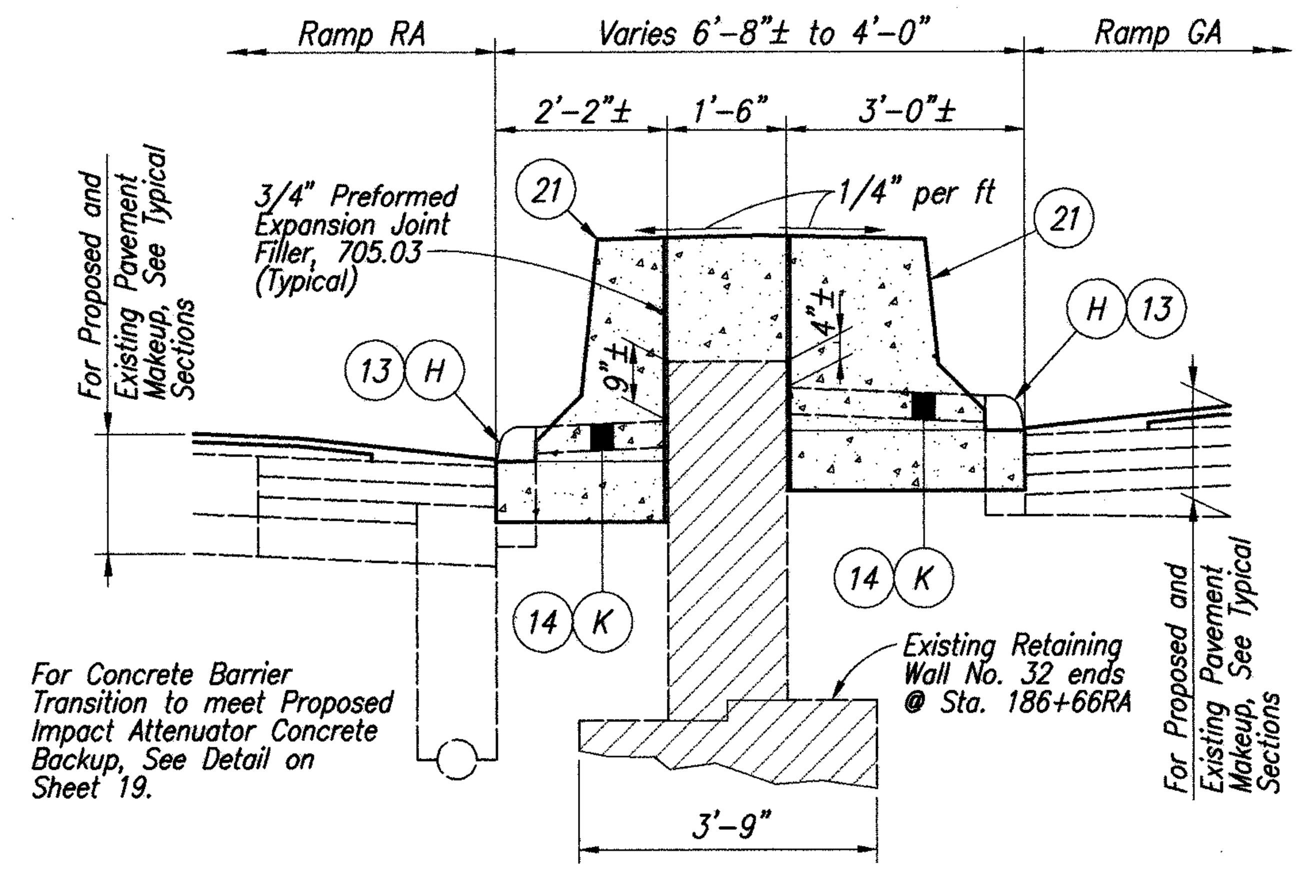
6) Contractor shall Exercise Caution to Ensure that these and other Bars are not Damaged During the Concrete Removal Operation. Any Bars Damaged as a Result of the Contractor's Operation shall be Replaced or Repaired by the Contractor at His Expence. Method of Repair or Replacement will be at the Discretion of the Engineer.

7) 18* * Indicates a SECTION 2 Item Description.

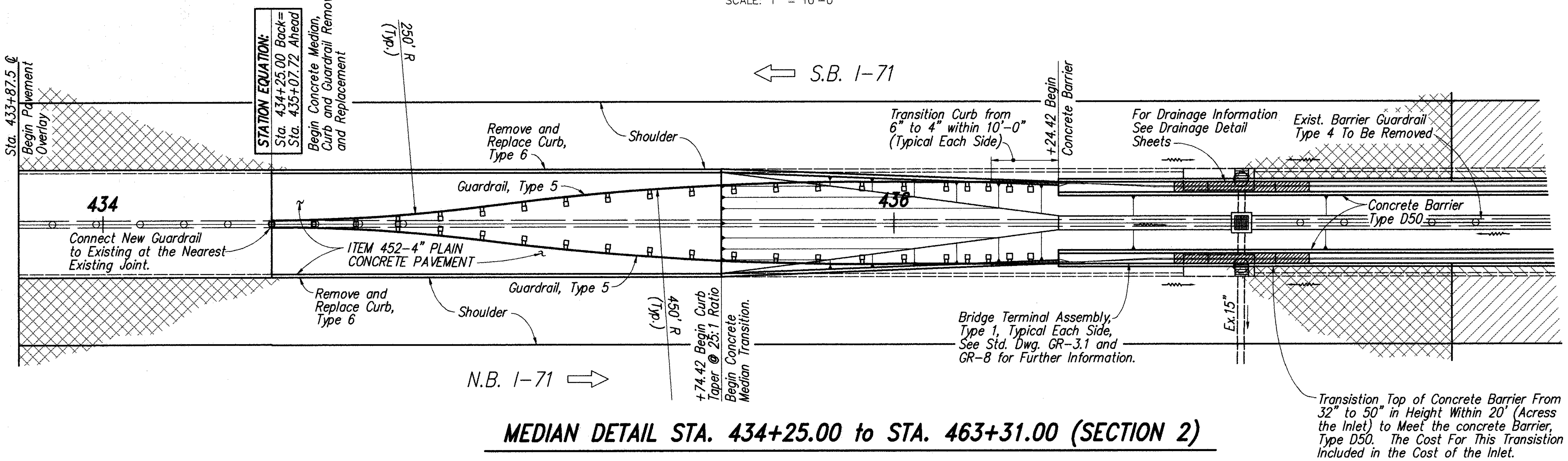


MEDIAN DETAIL STA. 546+73.48 to STA. 548+38.00 (SECTION 2)

SCALE: 1" = 10'-0"

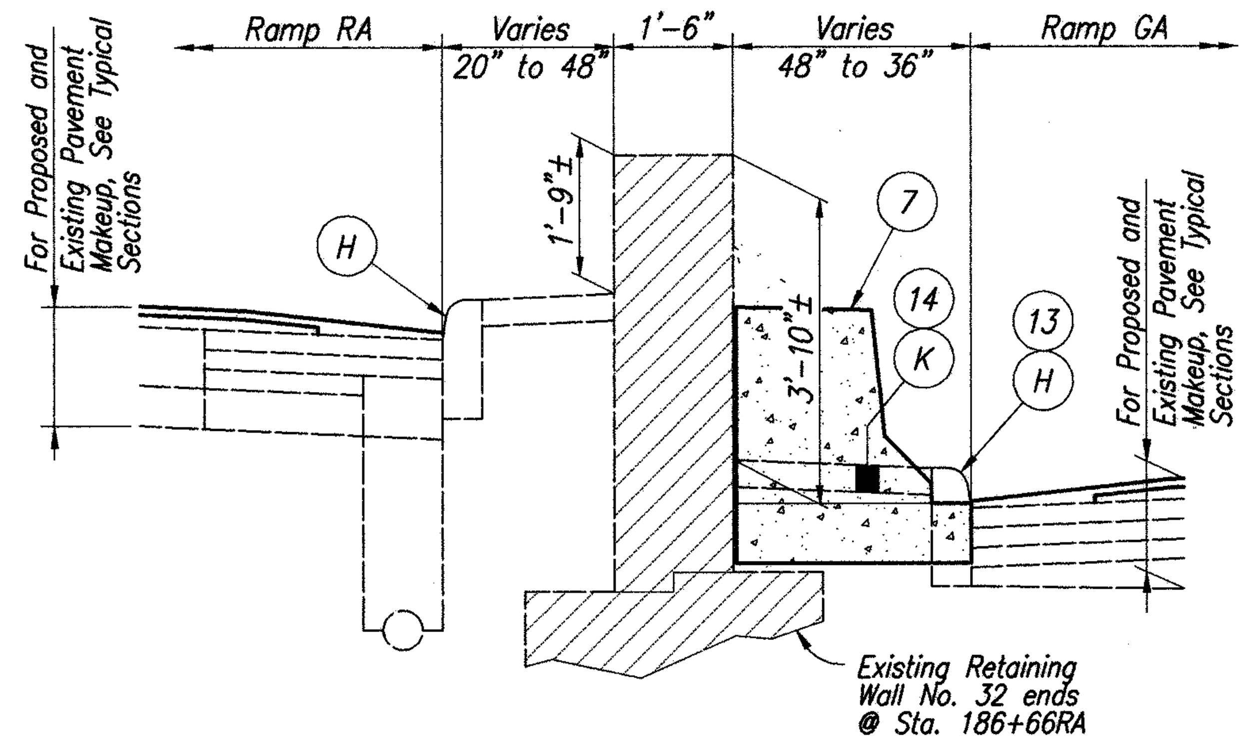


Sta. 186+66RA to Sta. 187+62.5RA (SECTION 1)



MEDIAN DETAIL STA. 434+25.00 to STA. 463+31.00 (SECTION 2)

SCALE: 1" = 10'-0"

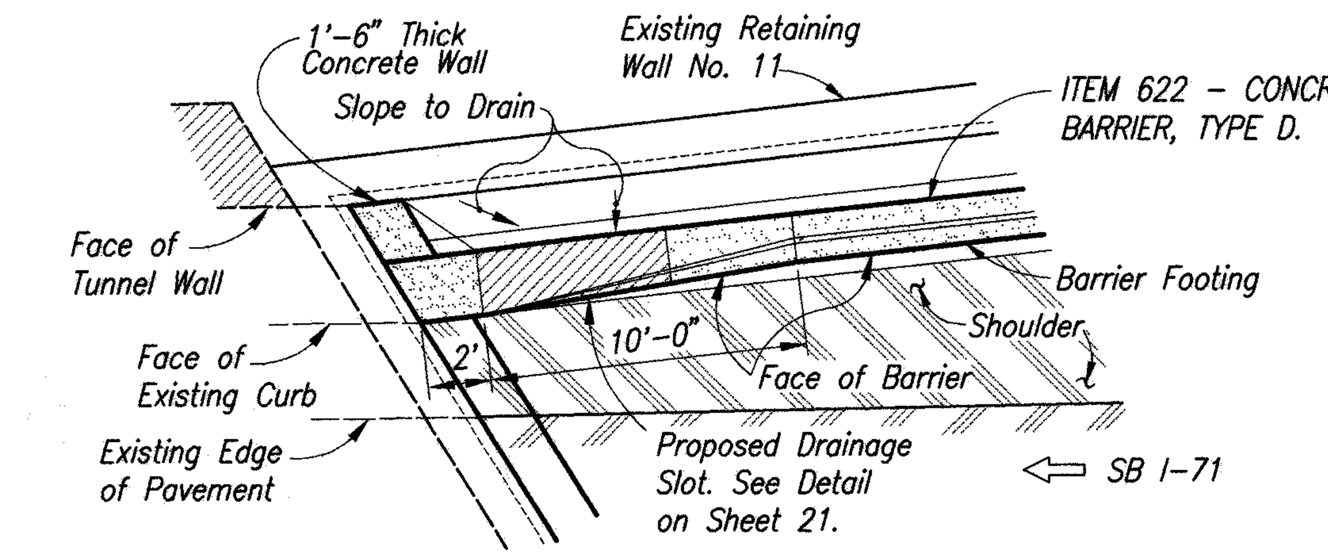


Sta. 185+86RA to Sta. 186+66RA (SECTION 1)

MEDIAN CONCRETE BARRIER DETAIL @ RETAINING WALL No. 32

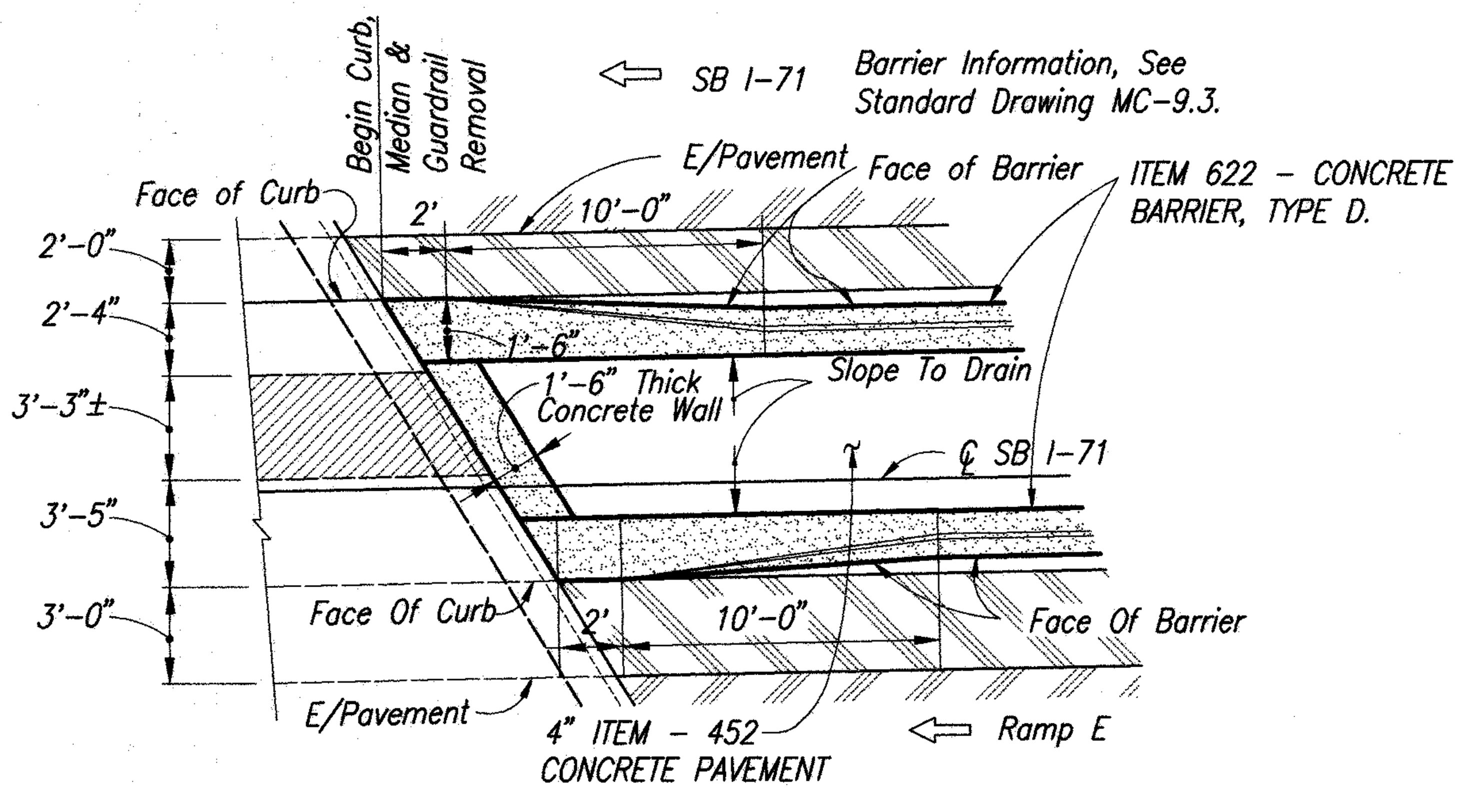
SCALE: 1/2" = 1'-0"

CALC. BY	DLD	HAM-71-1.30/9.00	OHIO	24A/401
DATE	9-23-94		FHWA REGION 5	
CHKD. BY	PWP			
DATE	10-4-94			

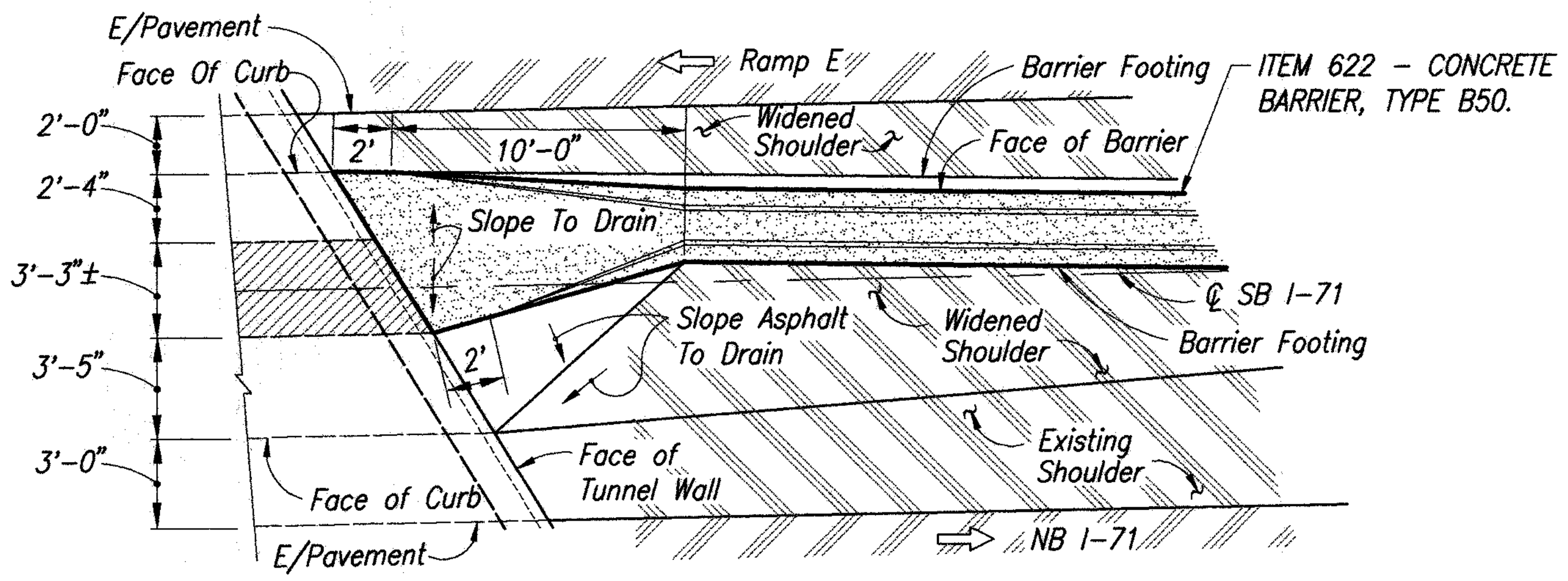


BARRIER TRANSITION BETWEEN SB I-71 & RETAINING WALL No. 11

For Further Concrete



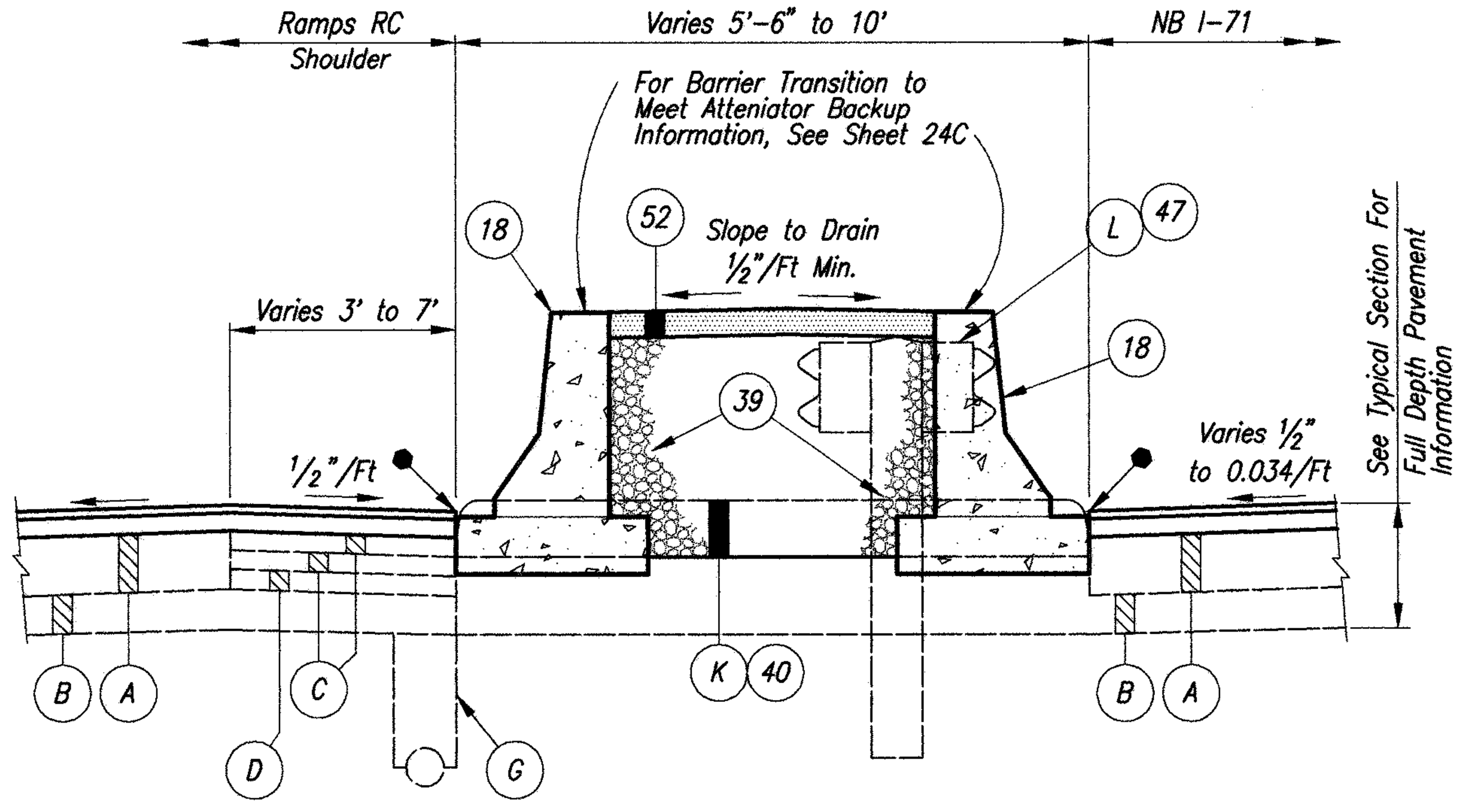
BARRIER TRANSITION BETWEEN RAMP E & SB I-71



BARRIER TRANSITION BETWEEN NB I-71 & RAMP E

CONCRETE BARRIER TRANSITIONS @ LYTEL TUNNEL (NORTH PORTAL)

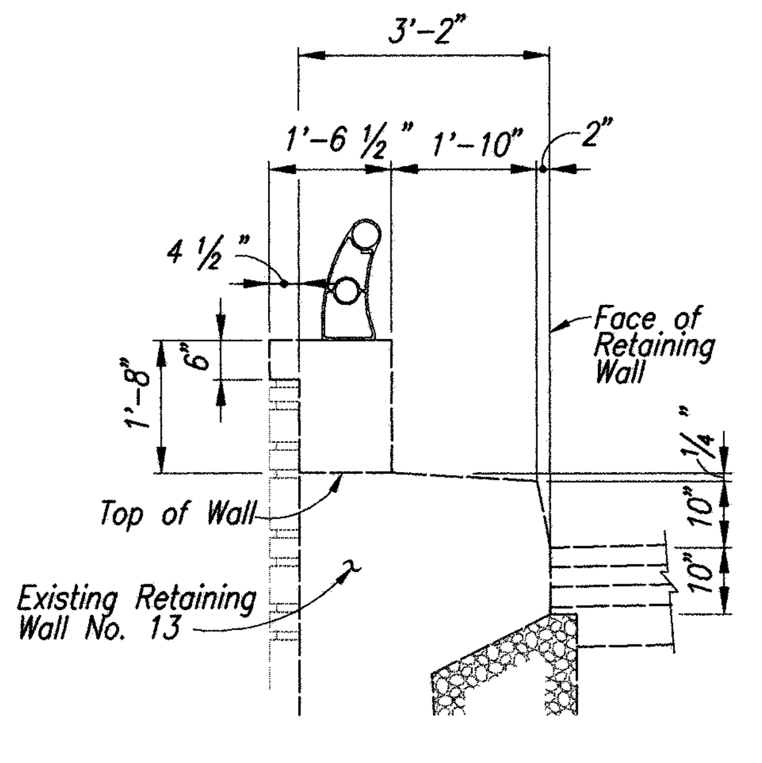
SCALE: 1" = 5'-0" (5 0 5 10 15)



CONCRETE BARRIER TRANSITION @ RAMP RC & NB I-71 GORE

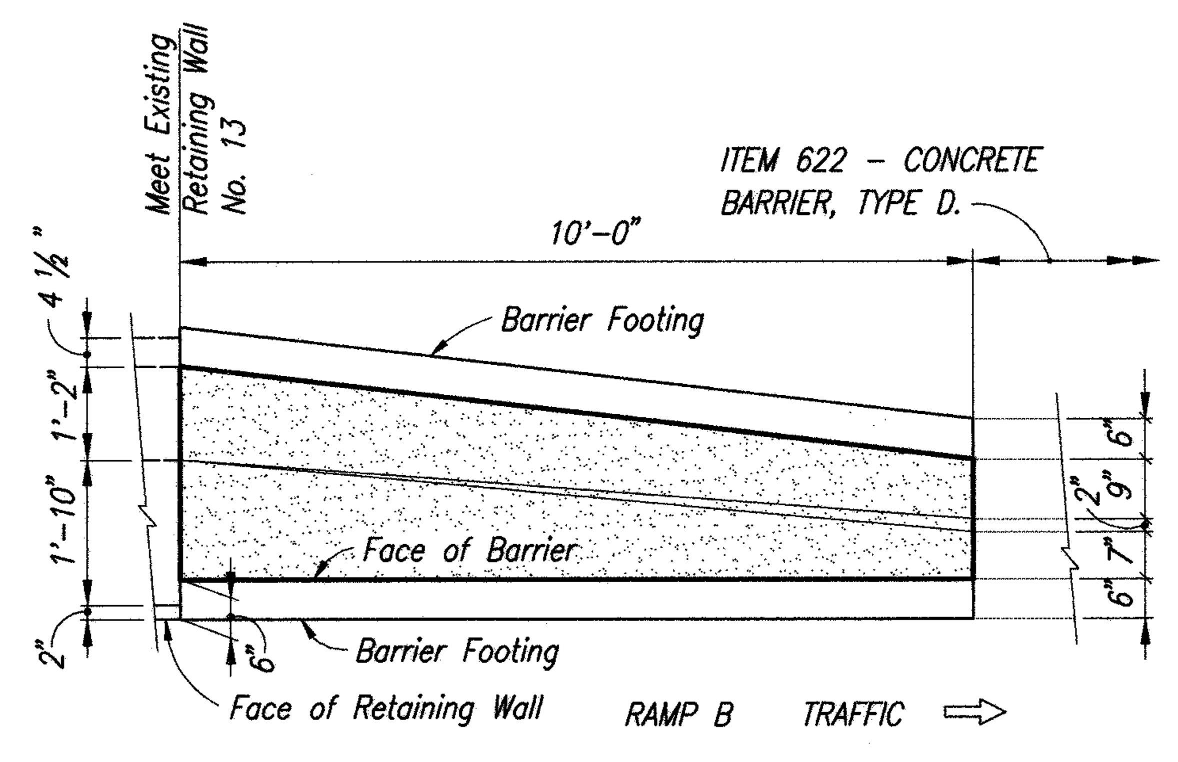
Sta. 182+43.7NB to Sta. 183+45NB

SCALE: 1/2" = 1'-0" (2 0 2 4 6)

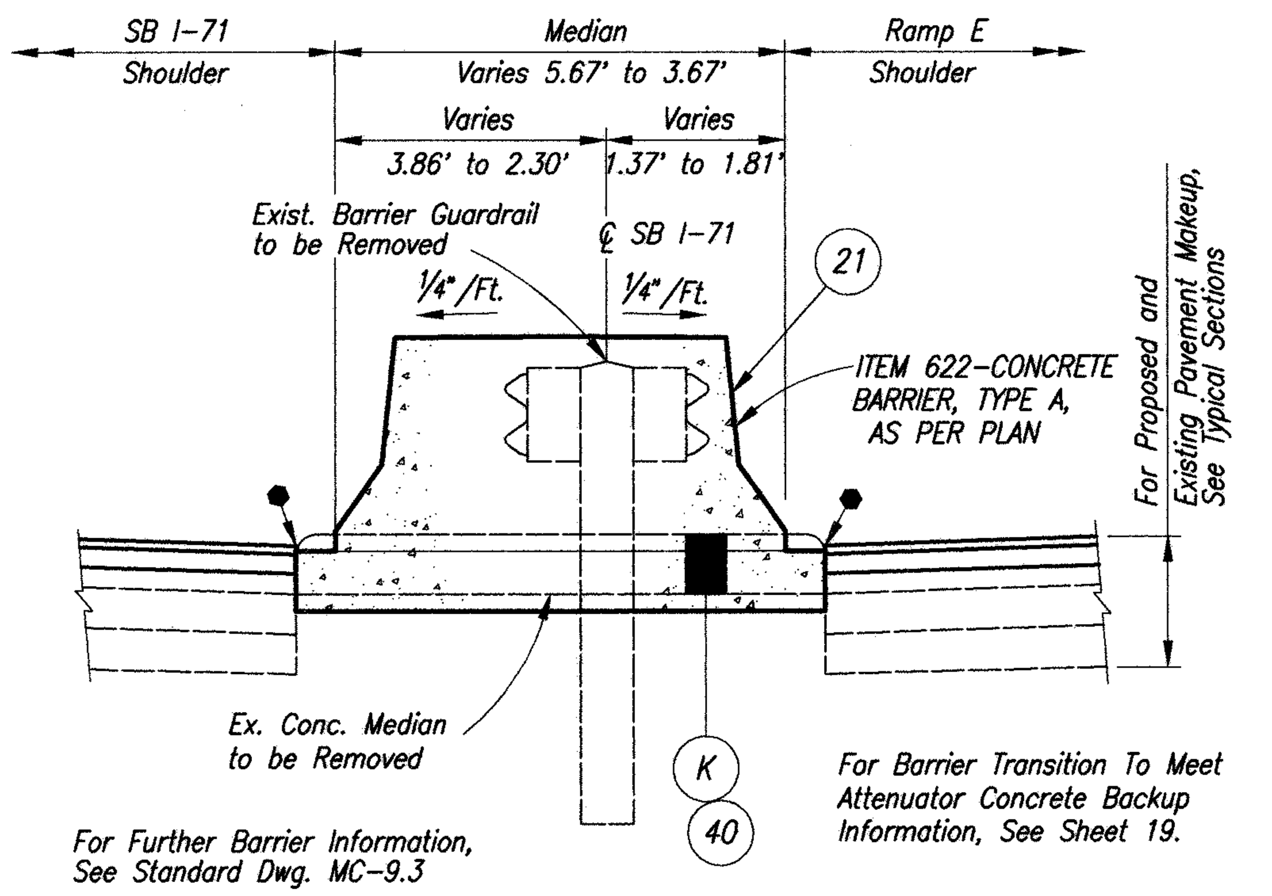


SECTION B–B

EXISTING CONDITION @ RETAINING WALL NO. 13

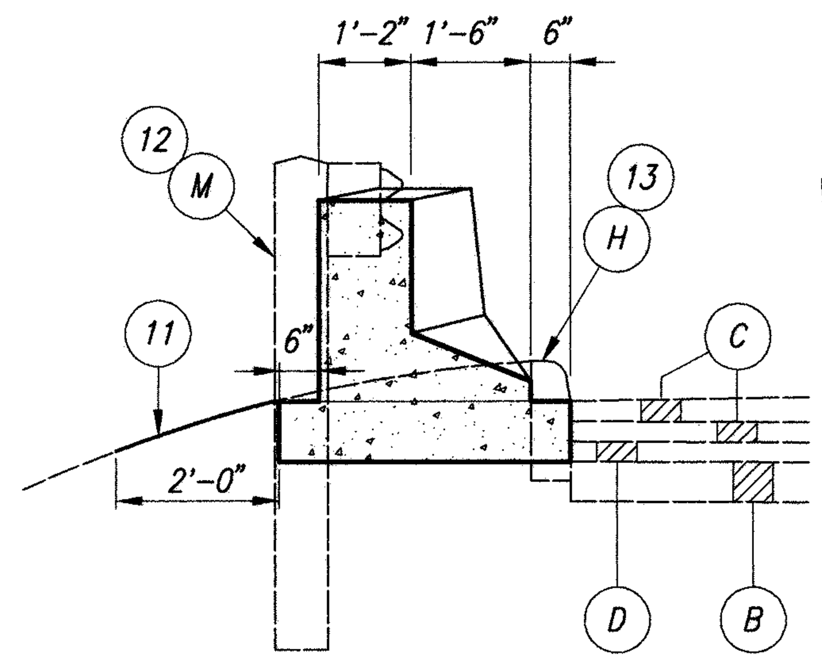


PLAN VIEW

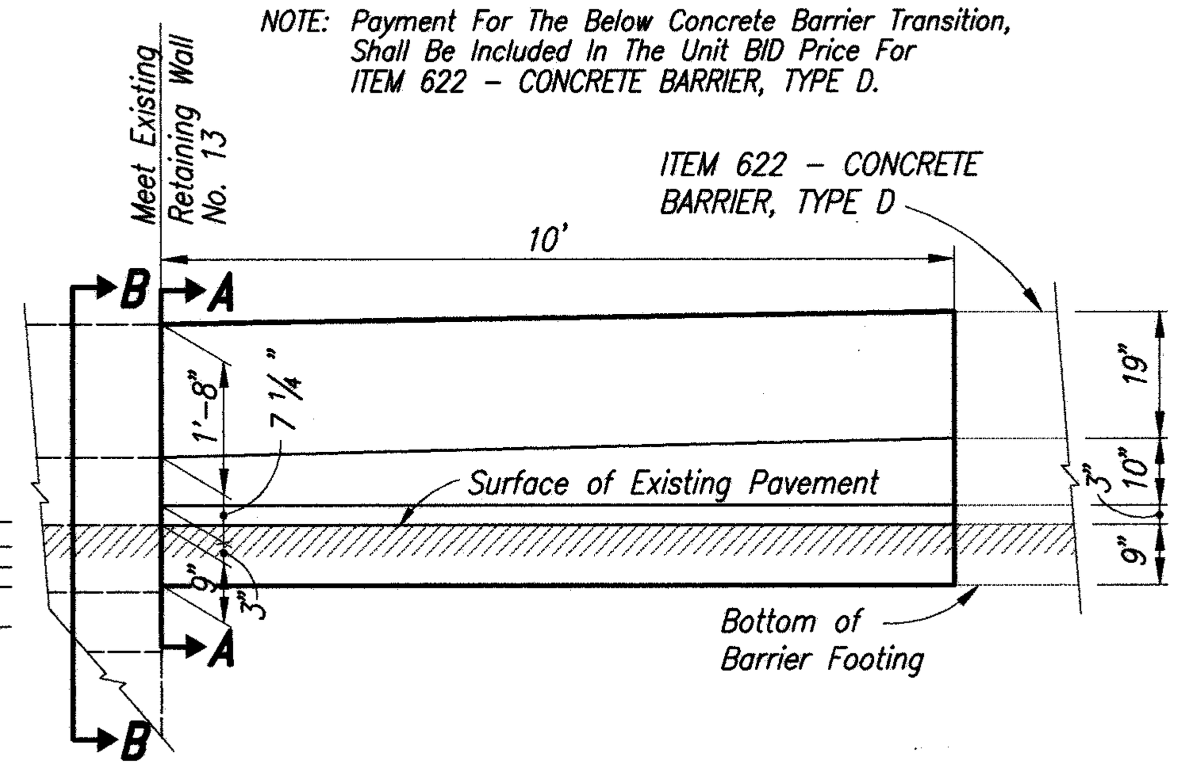


Sta. 134+48.43SB to Sta. 134+71.28SB (SECTION 1)

NOTE: Payment For The Below Concrete Barrier Transition, Shall Be Included In The Unit BID Price For ITEM 622 – CONCRETE BARRIER, TYPE D.



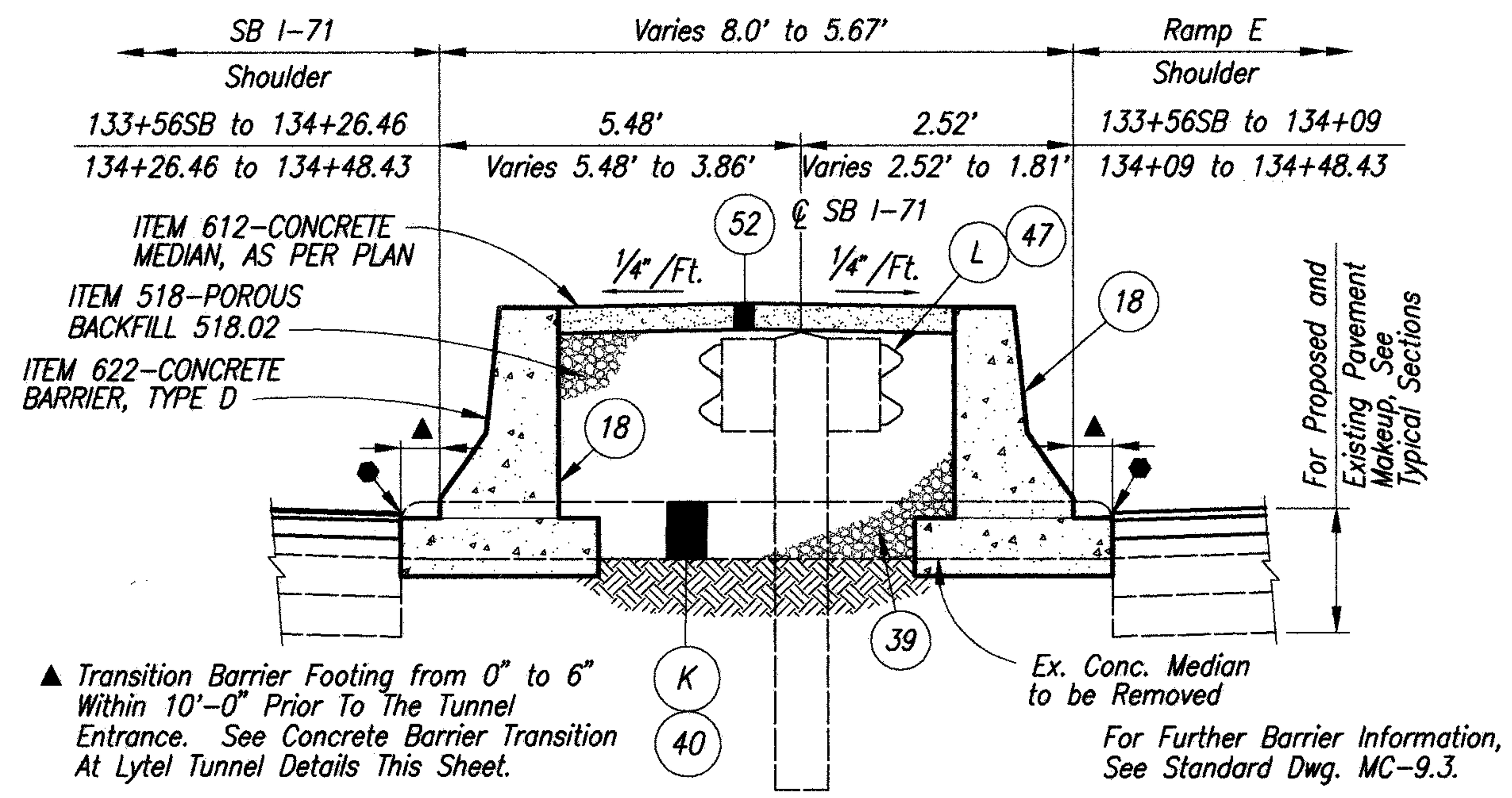
SECTION A–A



ELEVATION VIEW

CONCRETE BARRIER TRANSITION @ RAMP B AND RETAINING WALL No. 13

SCALE: 1/2" = 1'-0" (2 0 2 4 6)



▲ Transition Barrier Footing from 0" to 6" Within 10'-0" Prior To The Tunnel Entrance. See Concrete Barrier Transition At Lytel Tunnel Details This Sheet.

Sta. 133+56SB to 134+48.43SB (SECTION 1)

BARRIER WALL DETAIL @ S.B. I-71 & RAMP E

SCALE: 1/2" = 1'-0" (2 0 2 4 6)

NOTES

1) ● Indicates a 1/4" Drop, This is Typical at all Locations Where a Concrete Barrier is Placed Adjacent to Proposed Pavement Overlay.

2) For Additional Information Pertaining to Concrete Barriers, See Standard Drawings GR-8 and MC-9.3.

3) All Reinforcing Steel shall be Epoxy Coated As Per 509.10, Grade 60, and Paid for Under the Type of Concrete Barrier It is Being used in. All Rebars Shall Have a Minimum of 2" Clearance. For Further Information, See Standard Drawings MC-9.3, I-3A & B, and GR-8.

4) For SECTION 1 Item Legend Information, See Sheet 6.

5) For SECTION 1 Typical Sections, See Sheets 7-13.

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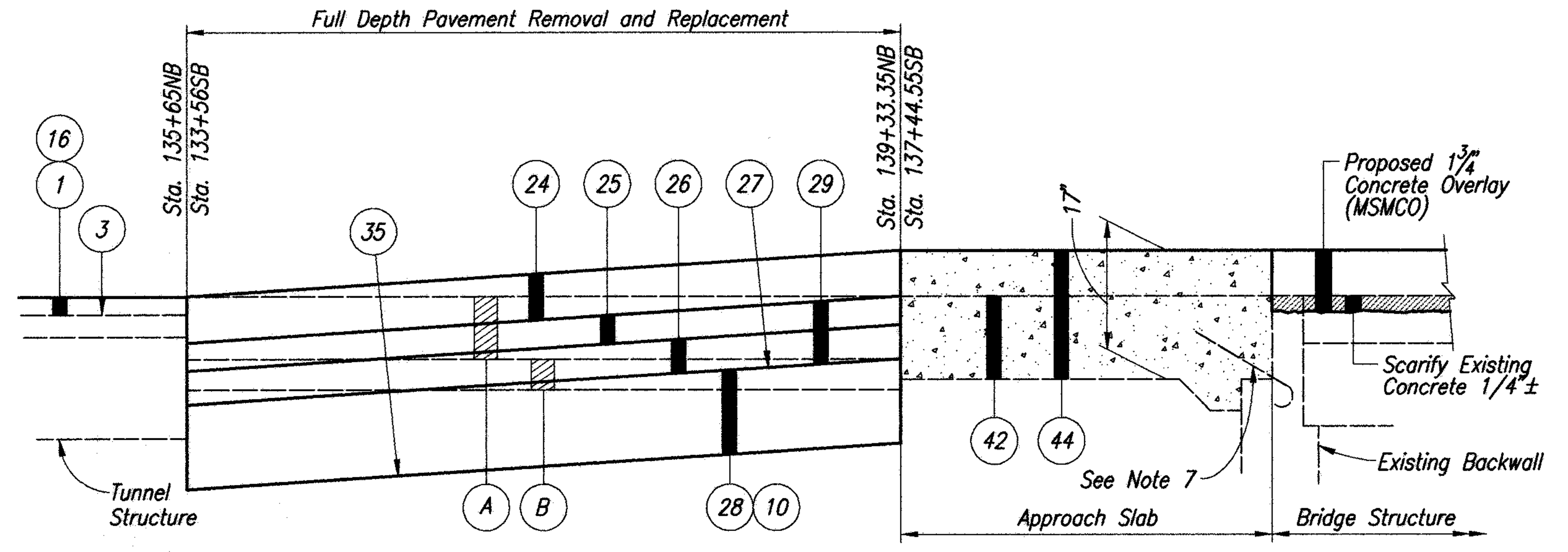
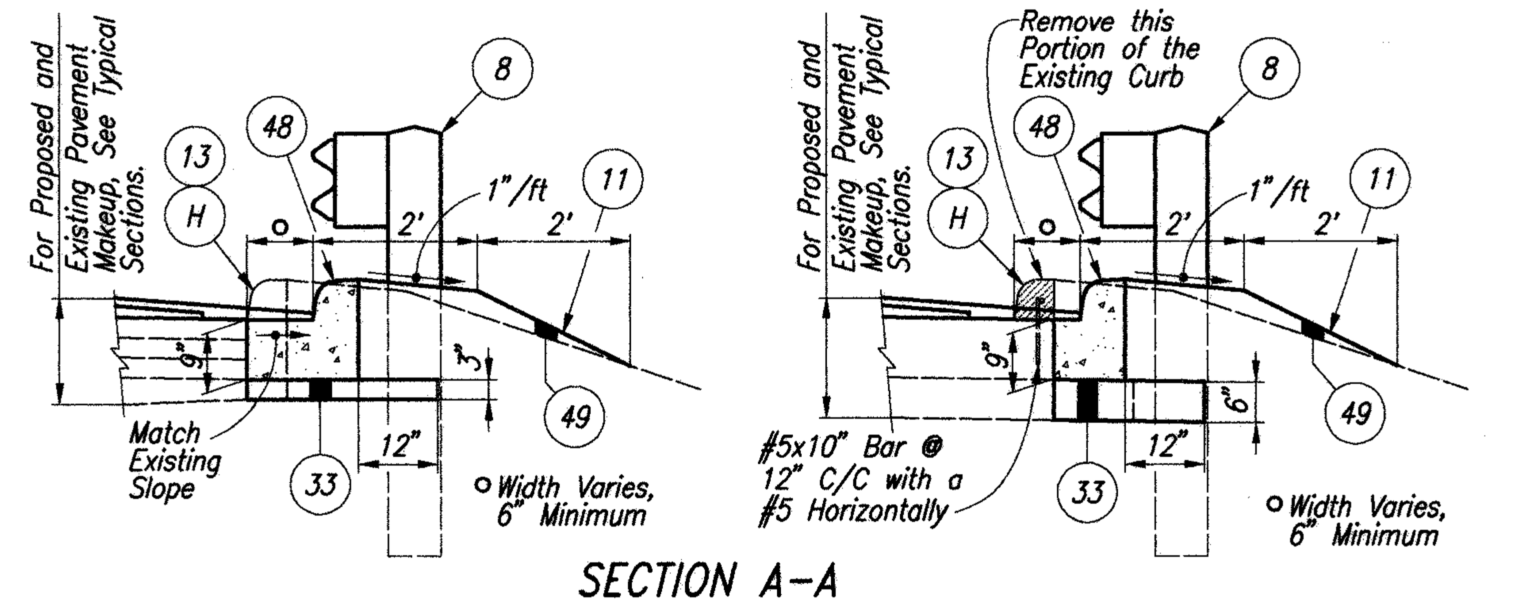


PAVEMENT TRANSITION FROM LYTLE PARK TUNNEL to BRIDGE HAM-71-0154R/L

NOT TO SCALE

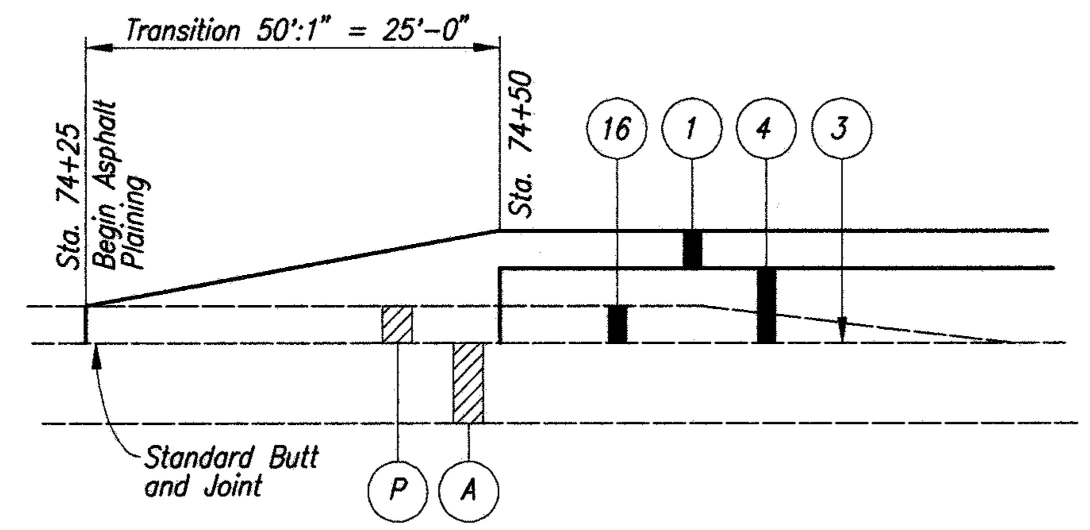


(EXISTING TYPE 6 CURB LOCATIONS) (EXISTING TYPE 2A CURB LOCATIONS)

HAM-71-0228 RAMP RD (RIGHT/LEFT FORWARD)

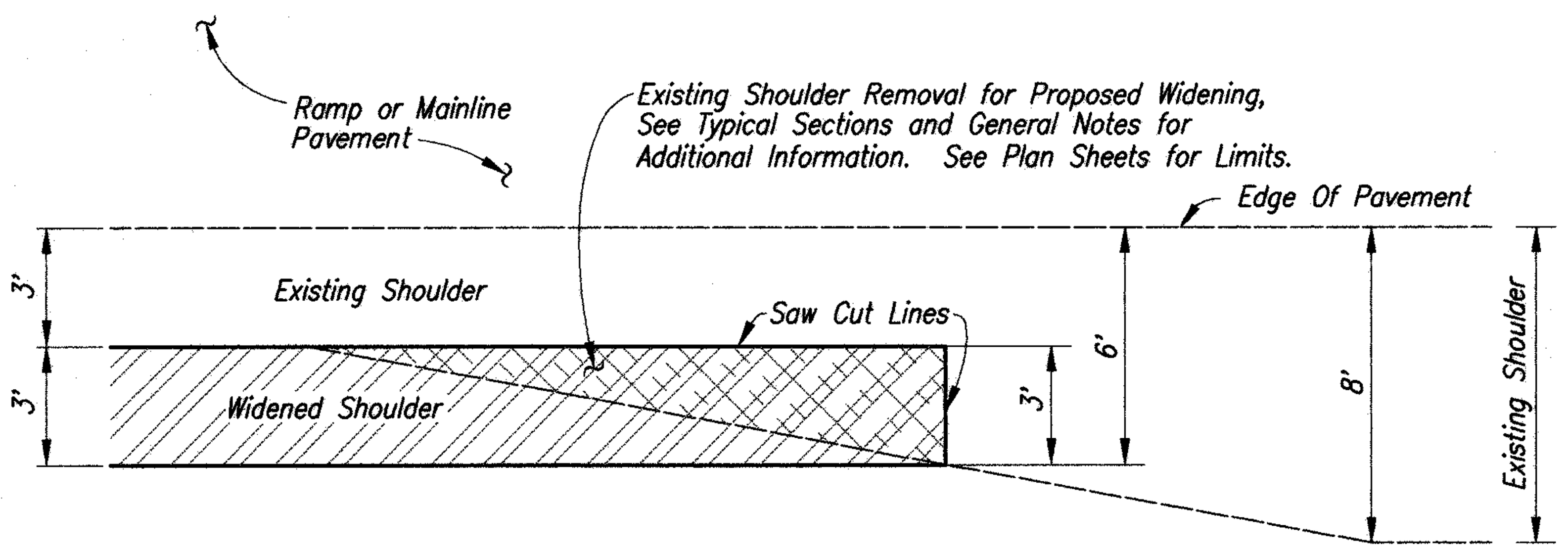
HAM-71-0228 RAMP RD (RIGHT REAR)
HAM-42-0235R (LEFT REAR)

SCALE: 1/2" = 1'-0"



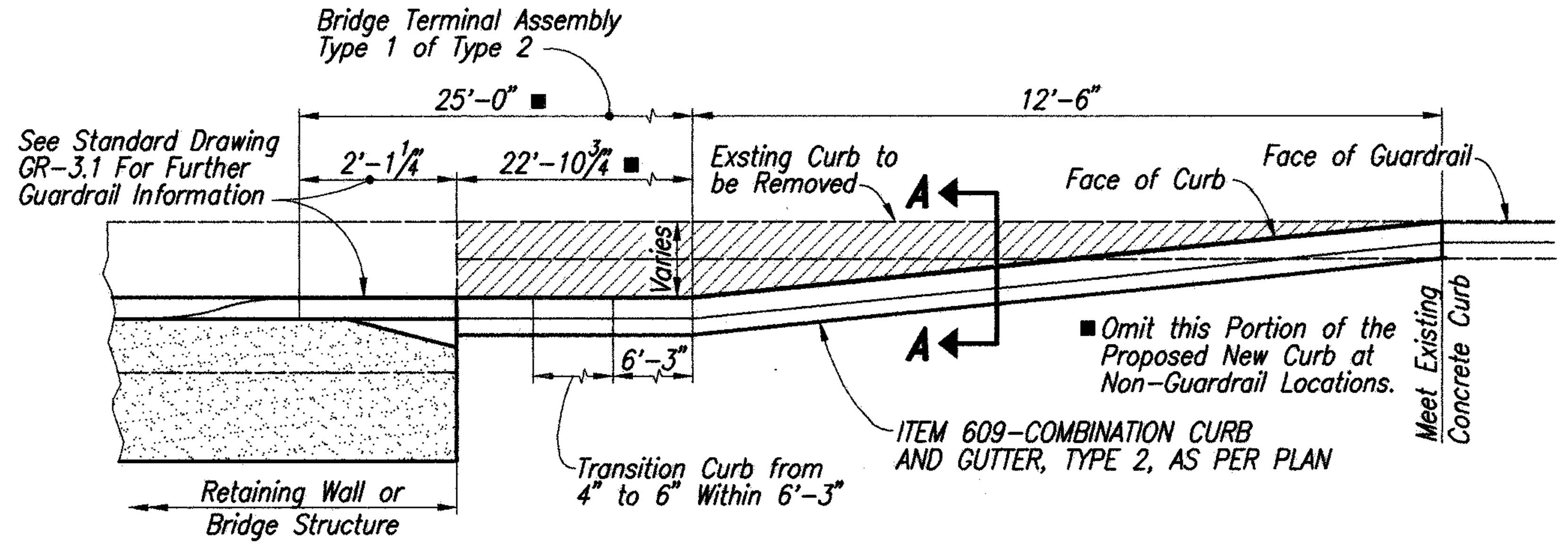
PAVEMENT TRANSITION @ RED BANK EXPRESSWAY (SECTION2)

NOT TO SCALE



TYPICAL SHOULDER WIDENING @ MAINLINE AND RAMPS

NOT TO SCALE

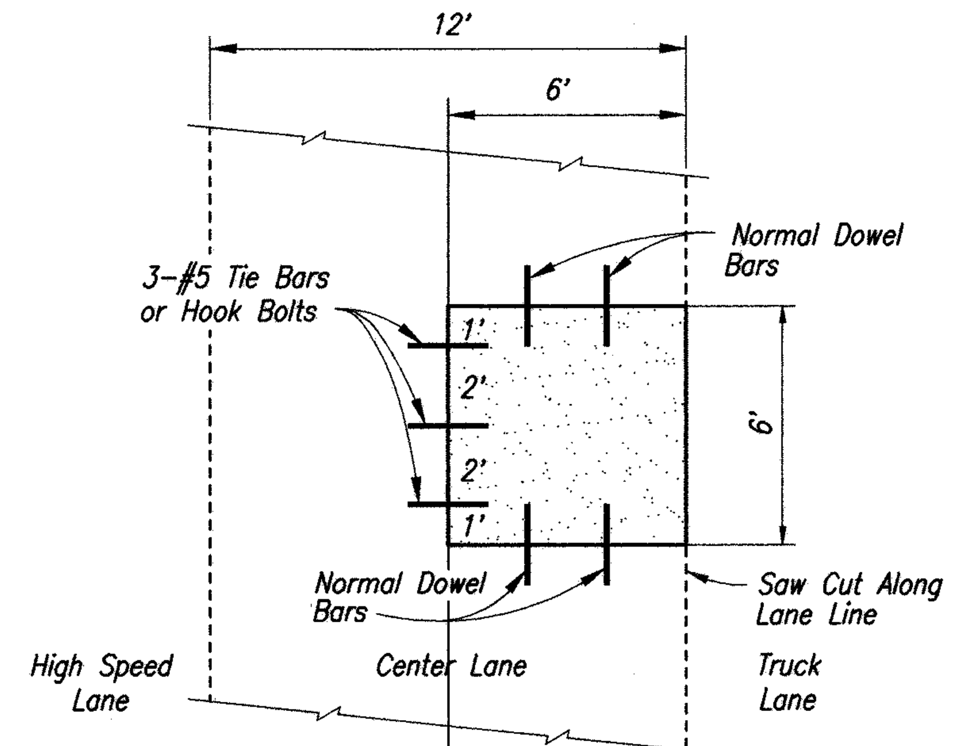


CURB TRANSITION @ RETAINING WALLS AND BRIDGE ABUTMENTS USING COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN

HAM-71-0228 Right Rear Abutment
Right/Left Forward Abutment
HAM-42-0235R Left Rear Abutment

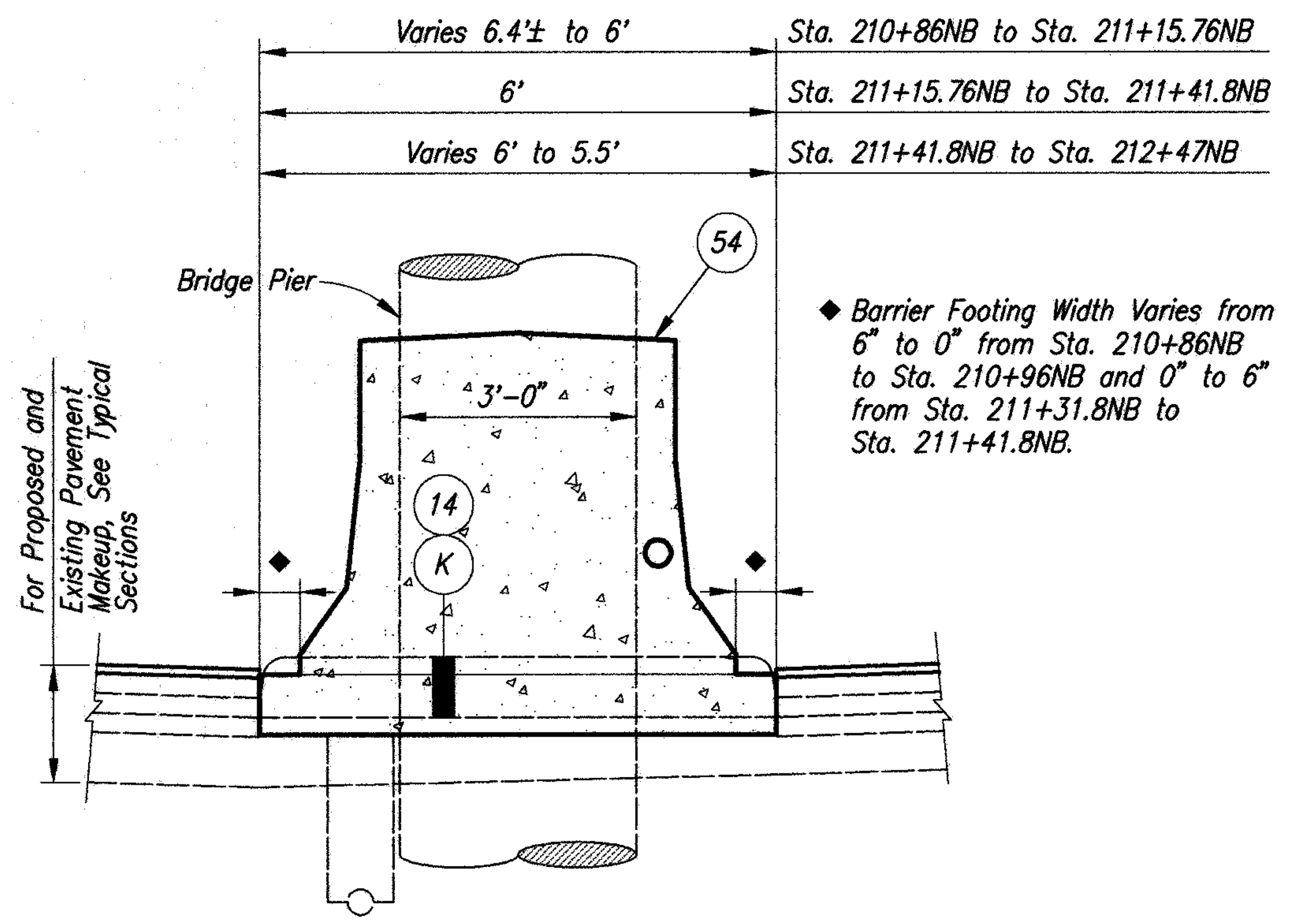
HAM-71-0243L (SB I-71) Left Rear Abutment
Right/Left Forward Abutment

SCALE: 1/2" = 1'-0"



HALF JOINT REPAIR DETAIL FOR THE CENTER LANE

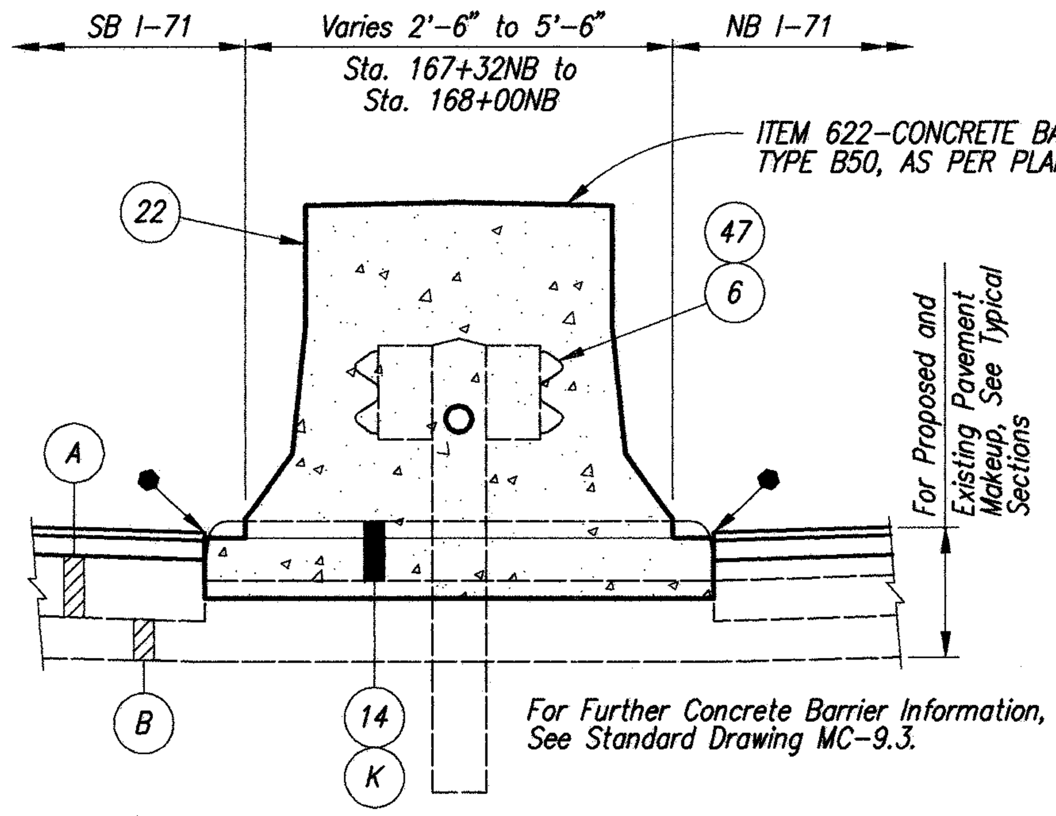
NOT TO SCALE



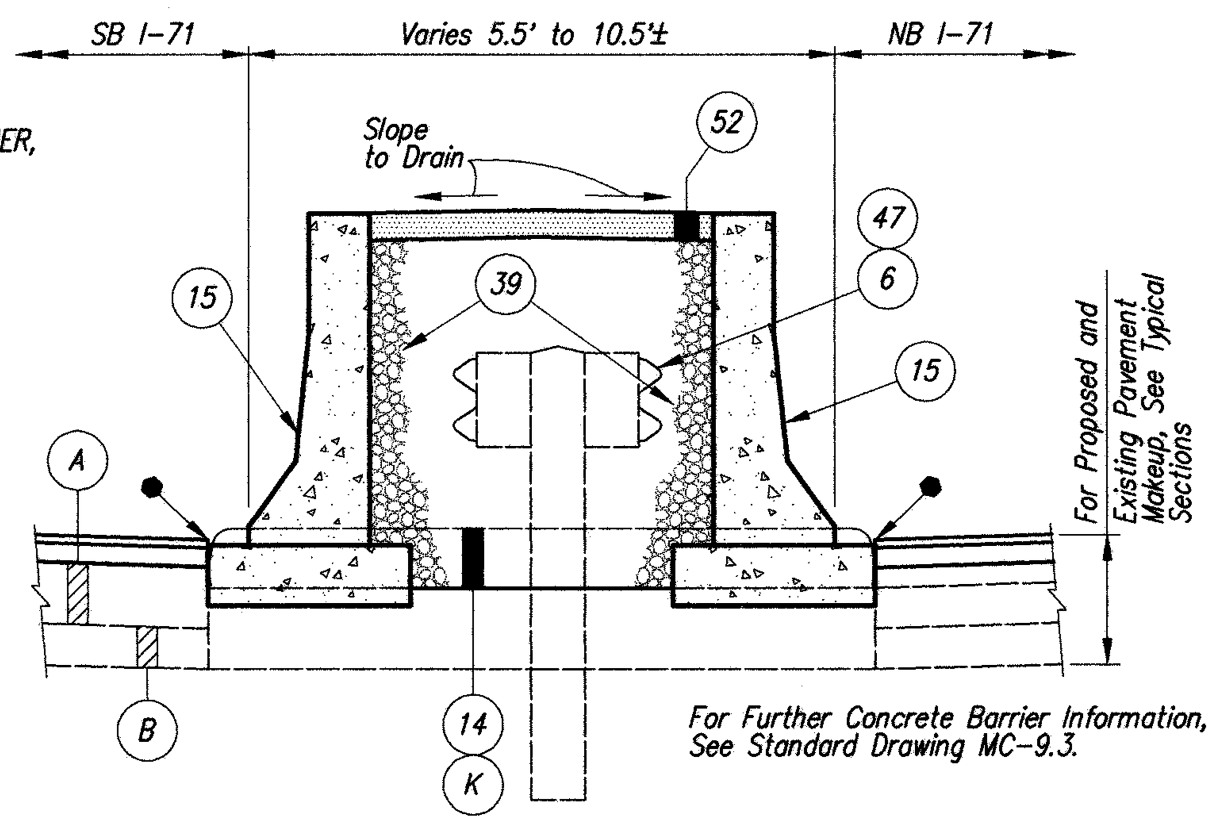
CONCRETE BARRIER, TYPE B50, AS PER PLAN A

Sta. 210+86NB to Sta. 212+47NB

SCALE: 1/2" = 1'-0"



Sta. 167+32NB to Sta. 168+00NB



Sta. 168+00NB to Sta. 169+25NB

BARRIER WALL DETAIL @ N.B. I-71 & S.B. I-71

SCALE: 1/2" = 1'-0"

NOTES

1) ● Indicates a 1/4" Drop, This is Typical at all Locations Where a Concrete Barrier is Placed Adjacent to Proposed Pavement Overlay.

2) For SECTION 1 Item Legend Information, See Sheet 6.
For SECTION 2 Item Legend Information, See Sheet 15.

3) (18*) * Indicates a SECTION 2 Item Description.

4) For Additional Information Pertaining to Concrete Barriers, See Standard Drawings GR-8 and MC-9.3.

5) All Reinforcing Steel shall be Epoxy Coated As Per 509.10, Grade 60, and Paid for Under the Type of Concrete Barrier it is Being used in. All Rebars Shall Have a Minimum of 2" Clearance. For Further Information, See Standard Drawings MC-9.3, I-3A & B, and GR-8.

6) For SECTION 1 Typical Sections, See Sheets 7-13.
For SECTION 2 Typical Sections, See Sheets 14-17.

7) Contractor shall Exercise Caution to Ensure that these and other Bars are not Damaged During the Concrete Removal Operation. Any Bars Damaged as a Result of the Contractor's Operation shall be Replaced or Repaired by the Contractor at His Expence. Method of Repair or Replacement will be at the Discretion of the Engineer.

8) "MSMCO" Stands For ITEM SPECIAL, MICRO-SILICA MODIFIED CONCRETE OVERLAY.

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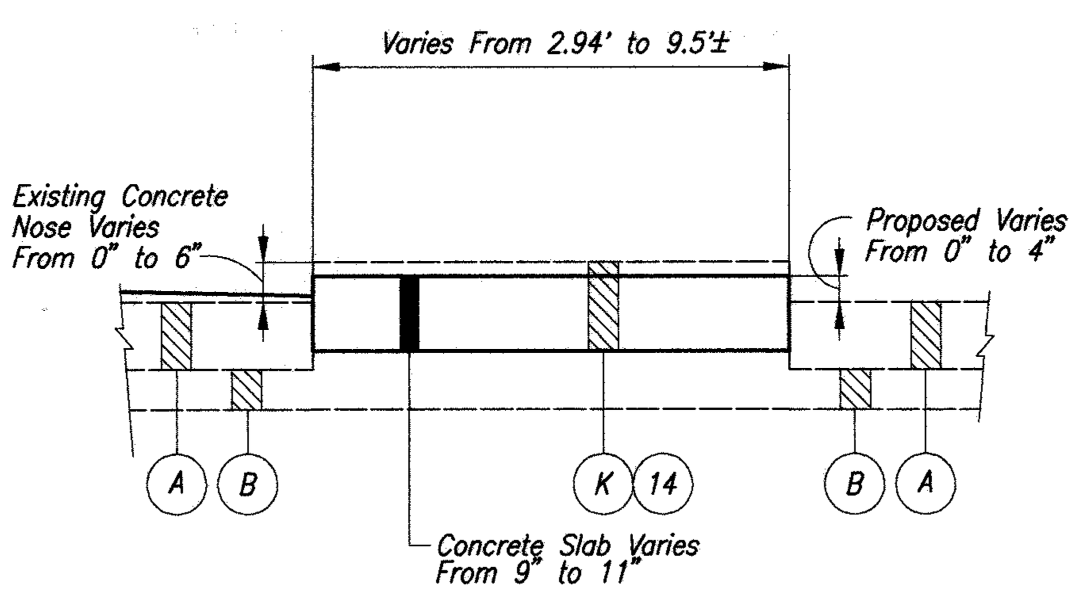
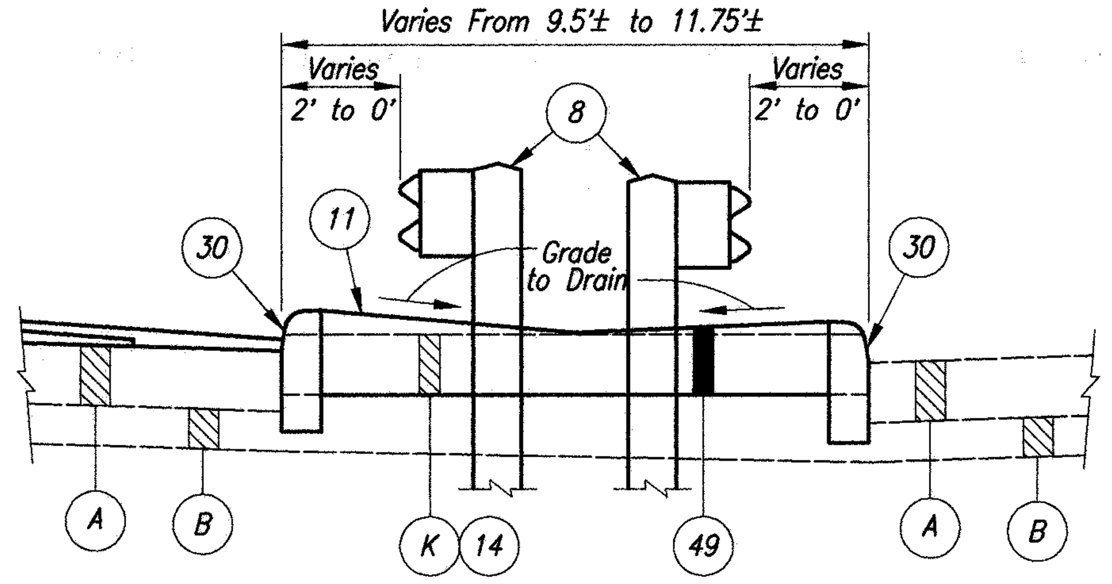


SECTION A-A

Sta. 157+30.44N to Sta. 157+60.22N

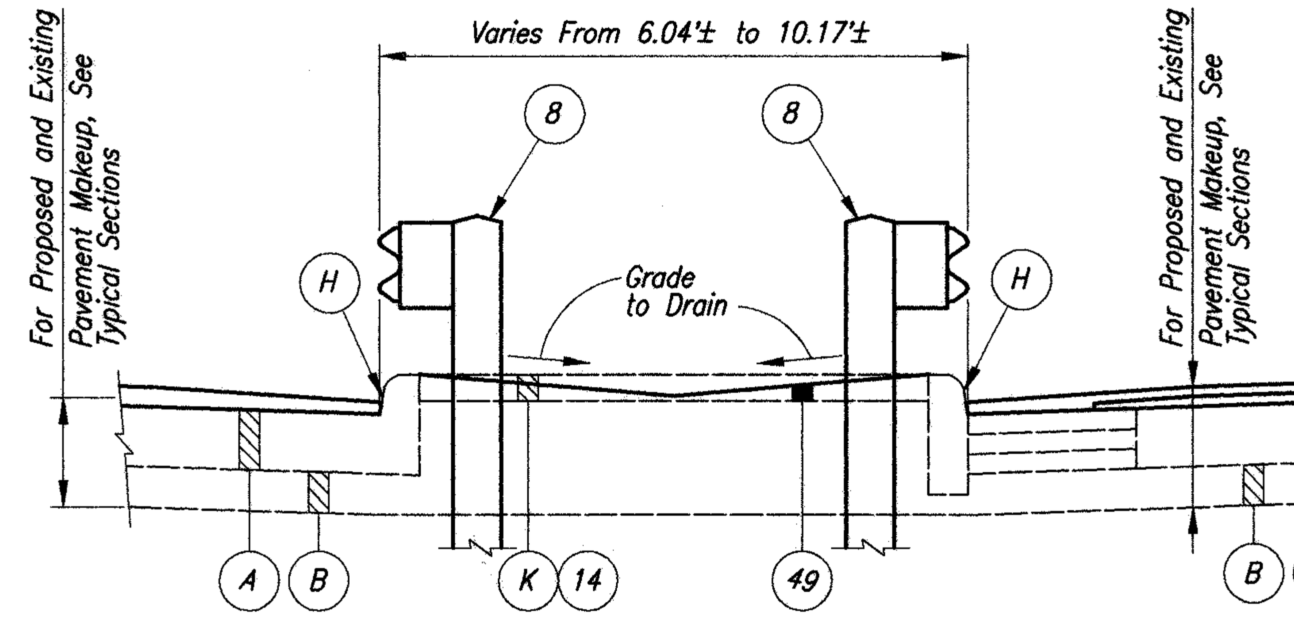
SCALE: 1/2" = 1'-0"



SECTION B-B

Sta. 157+60.22N to Sta. 157+70.22N

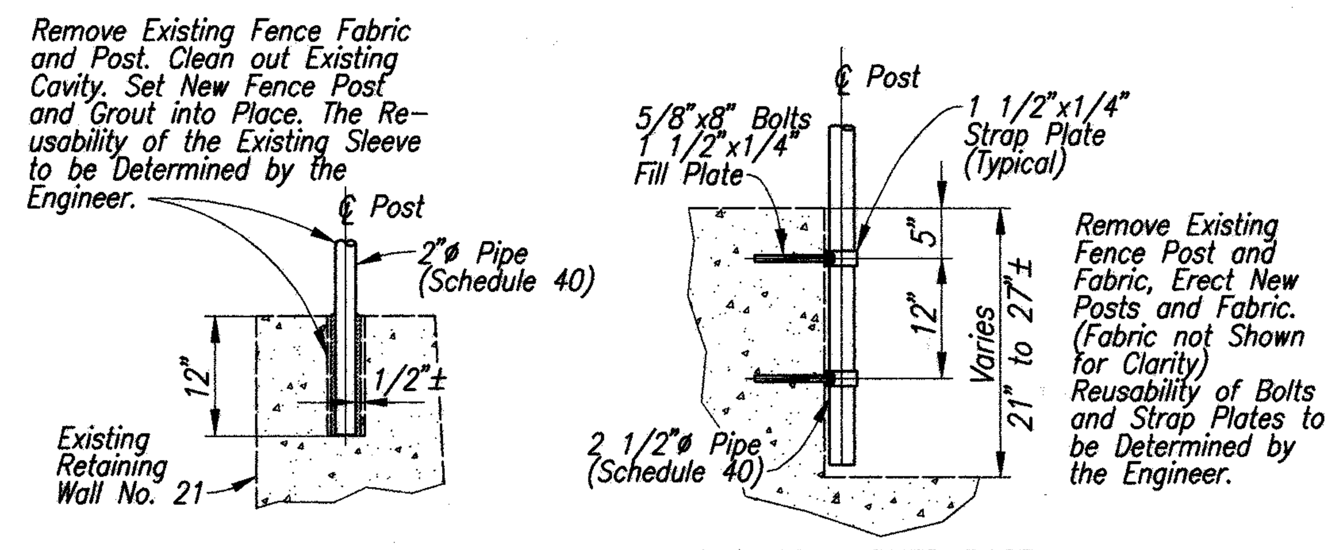
SCALE: 1/2" = 1'-0"



SECTION C-C

Sta. 188+32RE to Sta. 188+58RE±

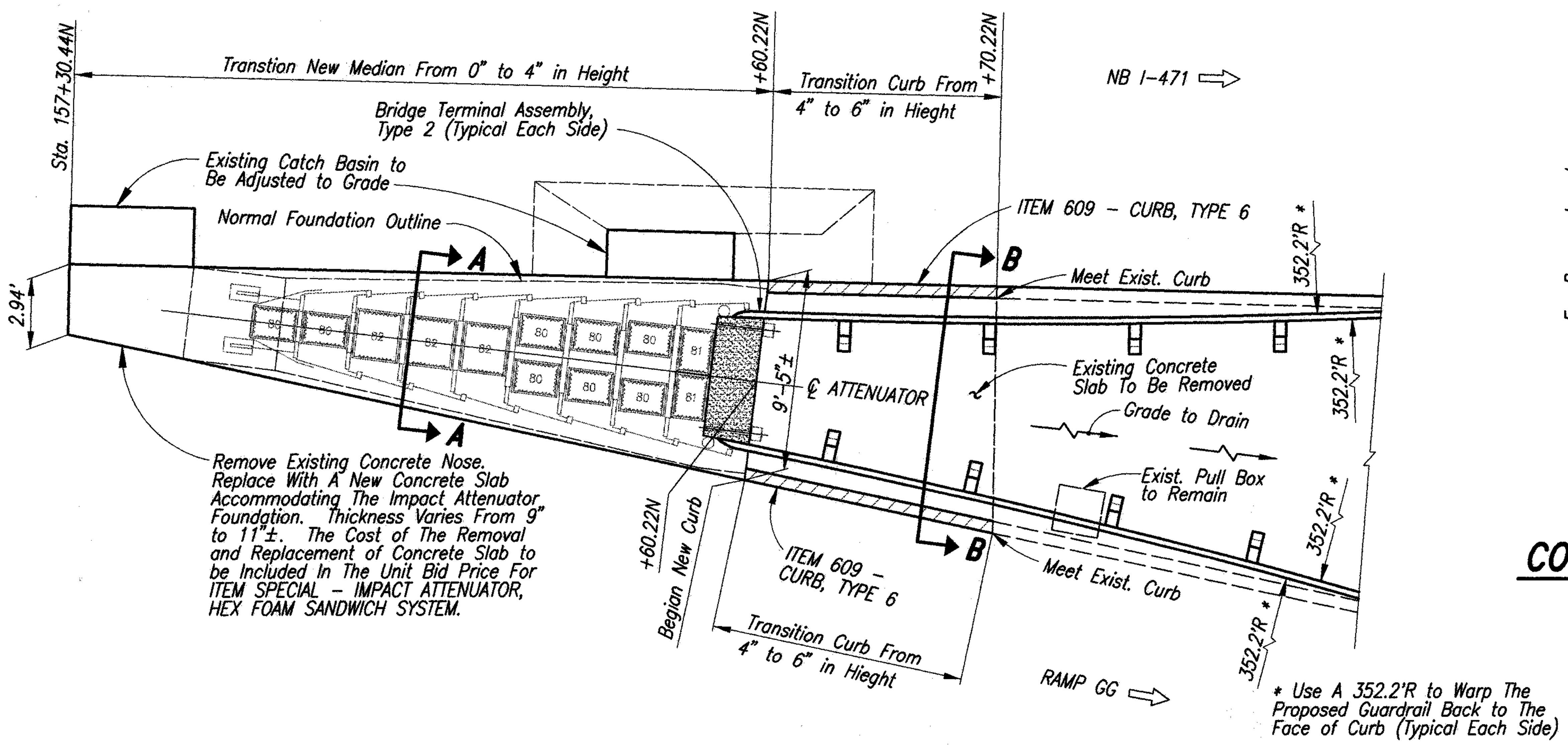
SCALE: 1/2" = 1'-0"



ITEM 607-FENCE, TYPE CLT, AS PER PLAN

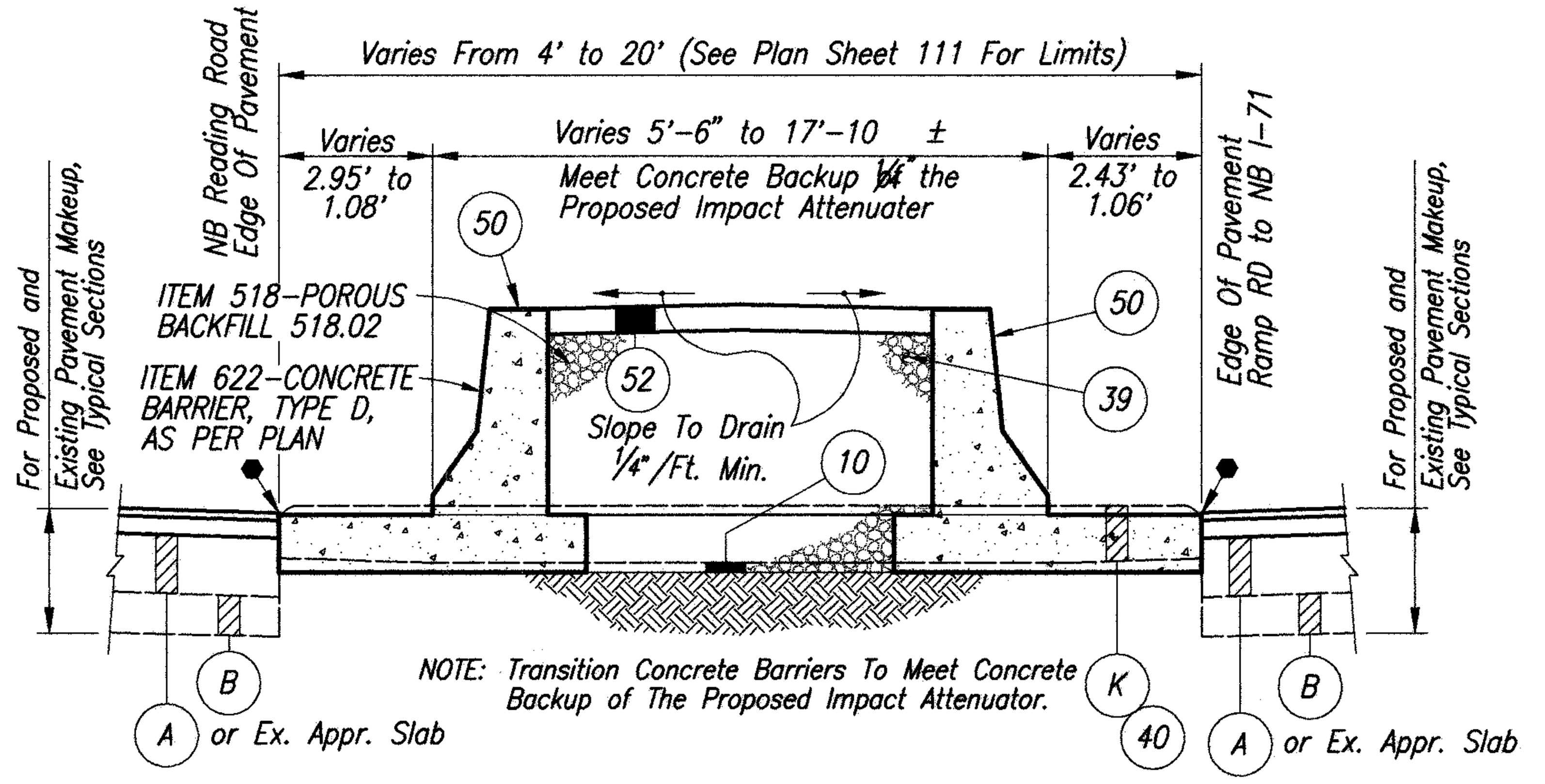
For Additional Information Pertaining to Retaining Wall No. 21, See the Origional Construction Drawings for HAM-71-(1.56)(2.51), Sheets 282 and 283.

NOT TO SCALE



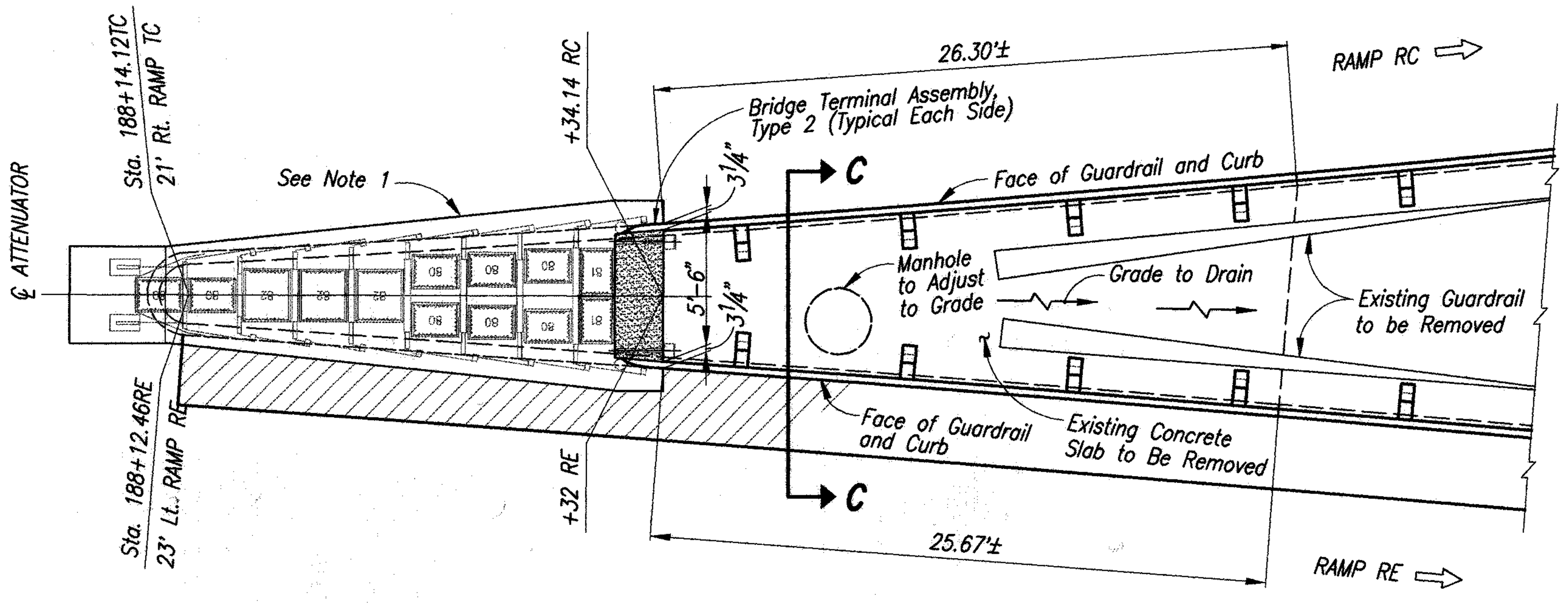
IMPACT ATTENUATOR DETAIL @ NB I-471 & RAMP GG GORE

SCALE: 1" = 5'-0"



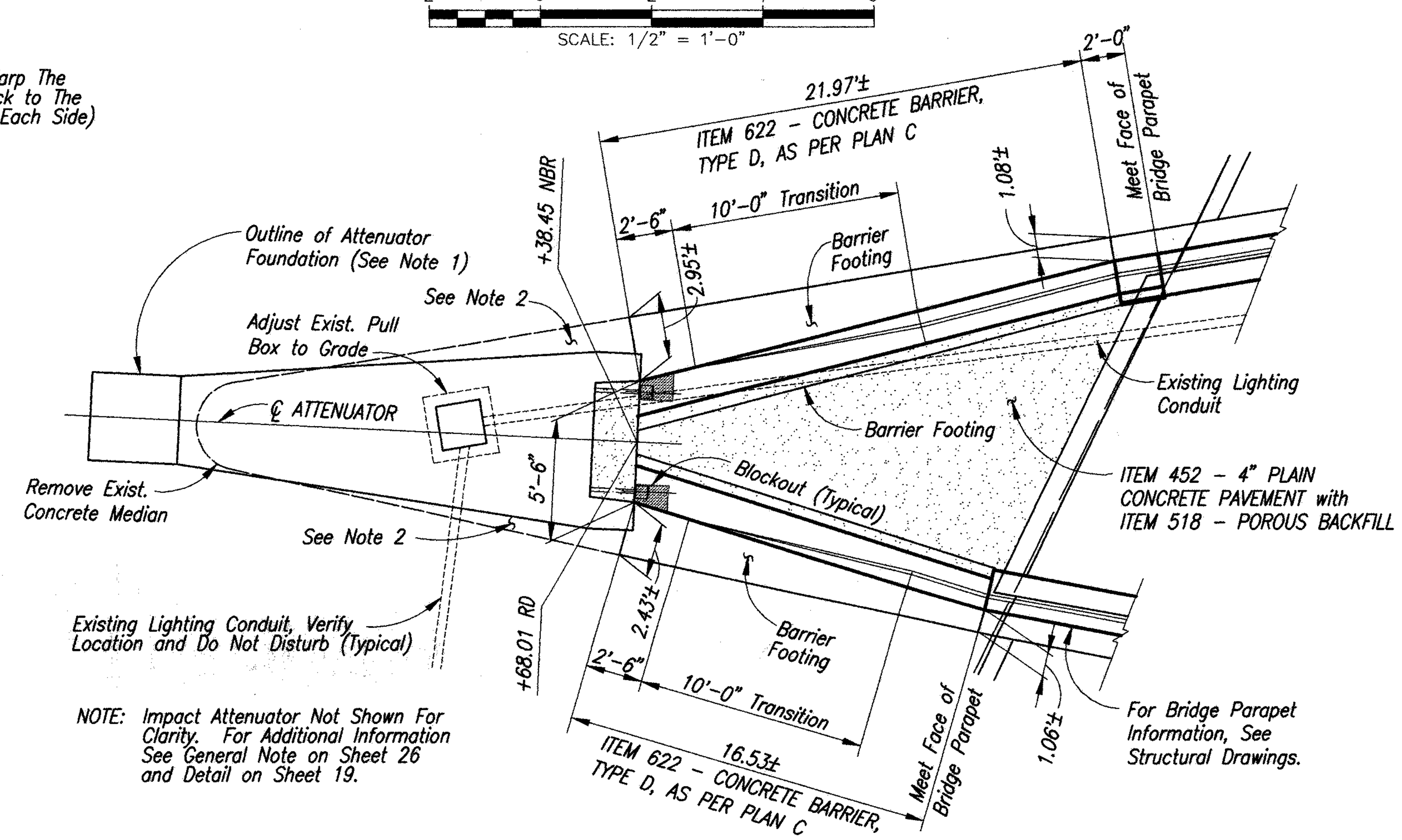
CONCRETE BARRIER DETAIL @ NB READING ROAD & RAMP RD GORE

SCALE: 1/2" = 1'-0"



IMPACT ATTENUATOR DETAIL @ RAMP RE/RC GORE

SCALE: 1" = 5'-0"



CONCRETE BARRIER & ATTENUATOR PLAN @ NB READING ROAD & RAMP RD

SCALE: 1" = 5'-0"

NOTES

1) Remove Any Portion of The Existing Concrete Pavement and/or Existing Approach Slab To Accommodate The Proposed Attenuator Foundation. The Cost of The Removal To Be Included In The Unit Bid Price For ITEM SPECIAL, IMPACT ATTENUATOR, HEX FOAM SANDWICH SYSTEM.

2) Fill Void Left By The Concrete Median Removal With ITEM 452-6" PLAN CONCRETE PAVEMENT. The Cost of The Materials, Labor, and Any Other Related Incidental Items Shall Be Included In The Unit Bid Price For ITEM SPECIAL, IMPACT ATTENUATOR, HEX FOAM SANDWICH SYSTEM.

3) ● Indicates a 1/4" Drop, This is Typical at all Locations Where a Concrete Barrier is Placed Adjacent to Proposed Pavement Overlay.

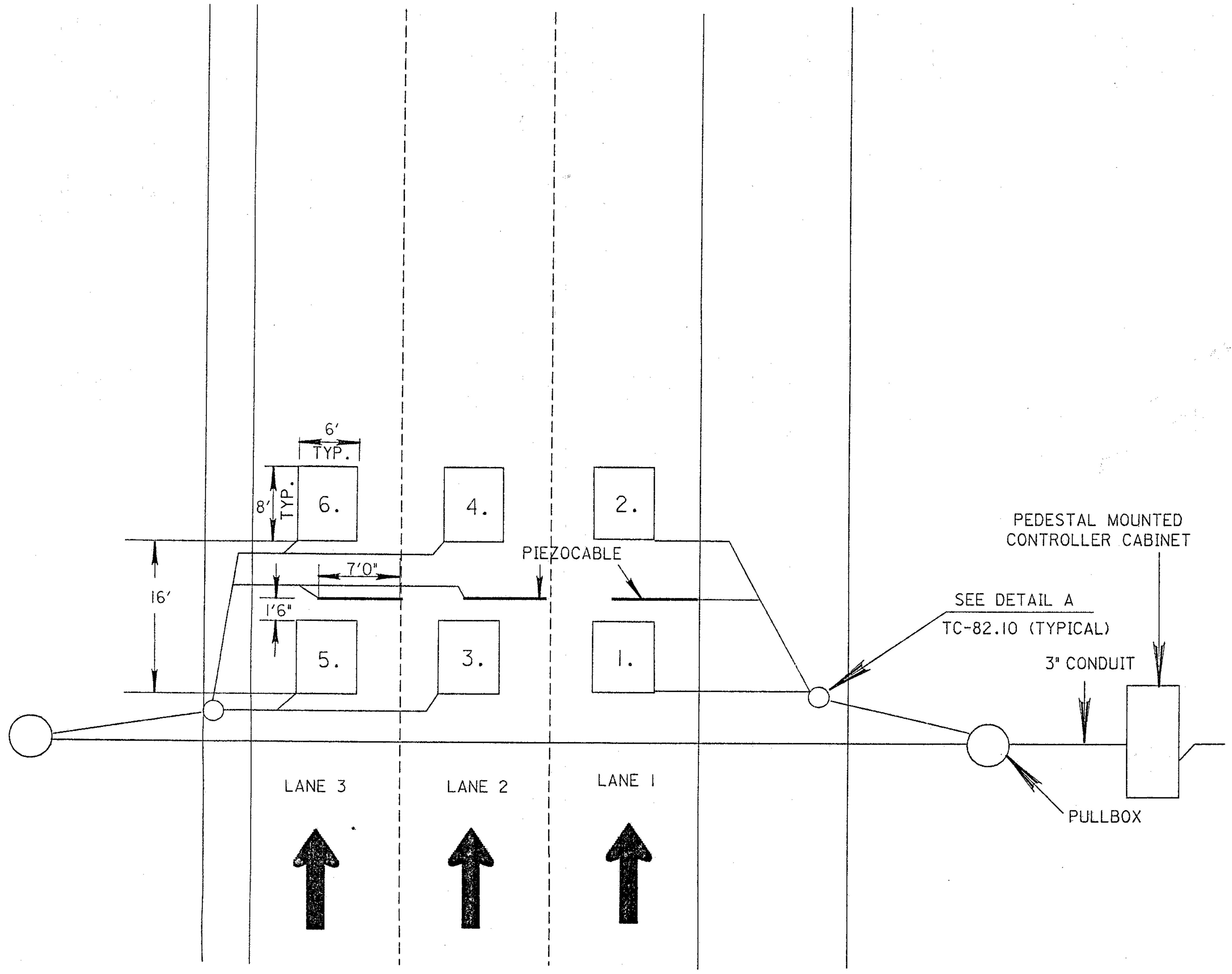
4) For SECTION 1 Item Legend Information, See Sheet 6. For SECTION 1 Typical Sections, See Sheets 7-13.

5) For Additional Information Pertaining to Concrete Barriers, See Standard Drawings GR-8 and MC-9.3.

6) All Reinforcing Steel shall be Epoxy Coated, Grade 60, and Paid for Under the Type of Concrete Barrier It is Being used in. All Rebars Shall Have a Minimum of 2" Clearance. For Further Information, See Standard Drawings MC-9.3, I-3A & B, and GR-8.

ATTENUATOR BACKUP & FENCE DETAILS

MISCELLANEOUS DETAILS



AUTOMATIC TRAFFIC RECORDER INSTALLATION

6 LANE SECTION

OPPOSITE DIRECTION TO BE THE SAME

NOTES

1. ALL LOOPS SHALL BE 6' X 8'. LOOPS SHALL BE SPACED 16'0" FROM LEADING EDGE TO LEADING EDGE. INSTALLATION OF LOOPS SHALL CONFORM TO TC-82.10.

2. THE PIEZOCABLE AXLE SENSOR SHALL BE A IRD DYNAX MODEL AS400 AXLE SENSOR MADE BY INTERNATIONAL ROAD DYNAMICS OR AN AUTOLOGGER MADE BY GATES OR APPROVED EQUAL. IT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS DIRECTION. THE END OF A PIEZOCABLE AXLE SENSOR SHALL NOT BE INSTALLED WITHIN SIX (6) INCHES OF A LONGITUDINAL JOINT. PAYMENT WILL BE AT THE CONTRACT UNIT PRICE PER EACH FOR ITEM SPECIAL PIEZOCABLE AXLE SENSOR AND SHALL INCLUDE ALL MATERIAL, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY FOR EACH INSTALLATION, IN PLACE COMPLETE AND ACCEPTED.

3. THE CABINET SHALL BE CLEAN CUT IN DESIGN AND APPEARANCE AND SHALL CONFORM TO THE FOLLOWING:

   A. IT SHALL BE MADE OF ACCEPTABLE STRENGTH ALUMINUM (NATURAL FINISH).
   B. THE MINIMUM USEABLE INSIDE DIMENSIONS SHALL BE: HEIGHT 30", WIDTH 19", AND DEPTH 13".
   C. HINGED DOOR SHALL BE PROVIDED ON THE FRONT OF THE CABINET WHICH SHALL INCLUDE SUBSTANTIALLY THE FULL AREA OF THE FRONT OF THE CABINET.
   D. THE DOOR SHALL BE FULLY GASKETED SO THAT WHEN CLOSED IT SHALL FIT CLOSELY TO THE GASKETING MATERIAL, MAKING THE CABINET WEATHER RESISTANT. A ONE POINT LATCH SHALL BE PROVIDED FOR THIS PURPOSE.
   E. THE DOOR SHALL BE PROVIDED WITH AN ACCEPTABLE STRONG LOCK WITH PERMANENT LUBRICATION AND A WEATHERPROOF TAB AND FURNISHED WITH TWO KEYS.
   F. THE DOOR PINS SHALL BE GREASE-LUBRICATED AND OF A NON-CORRODING STEEL MATERIAL.
   G. THE CABINET SHALL CONTAIN ONE SHELF FOR SUPPORT OF TRAFFIC COUNTING EQUIPMENT. SHELF TO BE CENTERED AT 15 INCHES FROM THE TOP OF THE CABINET.
   H. THE CABINET SHALL INCLUDE A VENT.
   I. 12 WIRE TERMINAL BLOCKS 6 INCHES FROM BOTTOM OF CABINET CENTERED ON BACK PANEL (PENN UNION # 6012 OR APPROVED EQUAL). 2 LANE - 2 TERMINAL STRIPS, 4 LANE - 3 TERMINAL STRIPS, 6 LANE - 4 TERMINAL STRIPS, 8 LANE - 5 TERMINAL STRIPS.
   J. MOUNTING FACILITIES SHALL INCLUDE ONE BACK PANEL WITH 5 HOLES (ALUMINUM).

   ALL PIECES SHALL BE SMOOTH AND FREE FROM FLAWS, CRACKS, BLOWHOLES AND OTHER IMPERFECTIONS. THE CABINET SHALL BE ORIENTED SO THAT THE DOOR OPENS TOWARD THE ROADWAY.

4. CABLE AND WIRE SHALL BE IDENTIFIED IN ACCORDANCE WITH 632.04. IDENTIFICATION SHALL INCLUDE THE DIRECTION OF TRAVEL (I.e., NB, WB) AND THE LOOP NUMBER AS SHOWN. EACH CABLE AND WIRE SHALL HAVE 5' 0" COILED IN THE CONTROLLER CABINET FOR CONNECTION BY OTHERS.

5. ADJACENT LOOPS (TRANSVERSE AND LONGITUDINAL) SHALL BE INSTALLED IN OPPOSITE DIRECTIONS, i.e., LANE 1, LOOP 1 AND LANE 2, LOOP 4 CLOCKWISE; LANE 1, LOOP 2 AND LANE 2, LOOP 3 COUNTERCLOCKWISE. EACH LOOP SHALL HAVE A SEPARATE LEAD - IN CABLE ROUTED TO THE CONTROLLER CABINET AND TAGGED.

6. REFERENCE IS MADE TO STANDARD DRAWING HL-30.11 FOR DETAILS OF DRAINING PULLBOXES. UNDERDRAINS FOR PULLBOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED APPROXIMATELY 20 FEET. AN ESTIMATED QUANTITY OF ____ LINEAR FEET OF ITEM 603, 4" CONDUIT TYPE E IS INCLUDED IN THE GENERAL SUMMARY FOR THIS PURPOSE.

7. FIVE (5) WORKING DAYS PRIOR TO THE SCHEDULED INSTALLATION, THE CONTRACTOR SHALL CONTACT MR. JAMES ROBSON AT 614-466-3727.

8. ALL ITEMS SHALL CONFORM TO C & M SPECIFICATIONS 625, 713, 632, 732, 633 AND 733, UNLESS OTHERWISE SPECIFIED.

9. ON AN EIGHT LANE SECTION, LANES 1 AND 2 SHALL BE SAWED TO ONE SIDE OF THE ROADWAY AND LANES 3 AND 4 SHALL BE SAWED TO THE OTHER.

10. LOOPS SHALL BE CUT IN THE FINAL ASPHALT COURSE. THEY SHALL NOT BE INSTALLED BETWEEN THE INTERMEDIATE AND FINAL COURSES.

ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION
603	00400	27	LIN. FT.	4" CONDUIT, TYPE E
625	25500	58	LIN. FT.	CONDUIT, 3", 713.04
625	25900	—	LIN. FT.	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3"
625	29000	20	LIN. FT.	TRENCH
625	30700	—	EACH	PULL BOX, 713.08, 18"
625	32000	—	EACH	GROUND ROD
632	27500	560	LIN. FT.	LOOP DETECTOR PAVEMENT CUTTING
202	75300	2	EACH	PULL BOX REMOVED AND REPLACED
632	64900	1310	LIN. FT.	LOOP DETECTOR WIRE, TYPE E
632	65200	304	LIN. FT.	LOOP DETECTOR LEAD-IN CABLE
632	72000	—	CU. YD.	CONCRETE FOR ANCHOR BASE FOUNDATION
632	89800	—	EACH	PEDESTAL, 3', TRANSFORMER BASE
SPECIAL	90400	6	EACH	PIEZOCABLE AXLE SENSOR
633	65000	—	EACH	CABINET, WITHOUT CONTROLLER, PREWIRED, PEDESTAL MOUNTING, TYPE G, AS PER PLAN

NOTES

1) Totals Carried to General Summary Sheets 90-92.
2) Totals Include Quantities for Both NB & SB I-71. See Plan Sheet 94 for Additional Information.

REVISED BY: DATE:

TRAFFIC CONTROL

AUTOMATIC TRAFFIC RECORDER INSTALLATION —— 6

PLAN INSERT SHEET

DATE 06/06/91 09/28/92 03/26/93

GENERAL NOTES

UTILITIES

LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THIER RESPECTIVE OWNERS:

ELECTRIC:	CINCINNATI GAS & ELECTRIC COMPANY 139 E. FOURTH STREET CINCINNATI, OHIO 45201 PHONE: (513) 287-3131
GAS:	CINCINNATI GAS & ELECTRIC COMPANY 139 E. FOURTH STREET CINCINNATI, OHIO 45201 PHONE: (513) 287-2151
WATER:	CINCINNATI WATER WORKS 4747 SPRING GROVE AVENUE CINCINNATI, OHIO 45232 PHONE: (513) 591-7890
TELEPHONE:	CINCINNATI BELL 201 E. FOURTH STREET CINCINNATI, OHIO 45201 PHONE: (513) 344-7043
SANITARY SEWER:	METROPOLITAN SEWER DISTRICT 1600 GEST STREET CINCINNATI, OHIO 45204 PHONE: (513) 244-1355

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS OF THE UTILITY, AS REQUIRED BY SECTION 153.64 O.R.C..

FIELD OFFICE TYPE C, AS PER PLAN

THE BIDDER IS ADVISED THAT THIS FIELD OFFICE SHALL FULLY COMPLY WITH THE REQUIREMENTS OF ITEM 619. WATER AND SANITARY CONNECTIONS WILL BE REQUIRED PRIOR TO OCCUPANCY. THE 1,000 S.F. REQUIREMENT SHALL BE PROVIDED AS ONE UNIT.

IN ADDITION, THE FIELD OFFICE SHALL INCLUDE A SECURE PARKING AREA OF NOT LESS THAN 4,000 S.F. SURROUNDED BY A 6 FT. HIGH SECURITY FENCE WITH LOCKABLE GATE AND BE ILLUMINATED BY SECURITY LIGHTING.

ALL OTHER REQUIREMENTS OF ITEM 619 SHALL APPLY.

FAILURE TO COMPLY WITH THIS NOTE AND THE REQUIREMENTS OF ITEM 619 SHALL RESULT IN THE WITHHOLDING OF PAYMENT ESTIMATES.

THE TOTAL COST OF PROVIDING THE ABOVE REQUIREMENTS SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 619, FIELD OFFICE, TYPE C, AS PER PLAN.

EXISTING DATUM

ELEVATIONS SHOWN ON THESE PLANS ARE BASED ON THE ORIGINAL CONSTRUCTION DRAWINGS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THESE ELEVATIONS AND MAKE ADJUSTMENTS WHERE NECESSARY.

THE PROPOSED PAVEMENT RESURFACING COURSE SHALL FOLLOW THE ALIGNMENT AND PROFILE OF THE EXISTING PAVEMENT. PREVIOUS CONSTRUCTION PLANS SHOWING THE ORIGINAL ALIGNMENT AND PROFILE GRADE ARE ON FILE FOR INSPECTION AT THE DISTRICT 8 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION AS PROJECT NUMBERS: HAM-71-0.93, HAM-71-1.30, HAM-71-1.56/2.51, HAM-71-2.08, HAM-71-8.86, HAM-50-21.39, HAM-471-0.24 AND HAM-471-0.30. THE STATION LIMITS OF THIS PROJECT ARE BASED ON THE ORIGINAL PLANS. THE PROPOSED ASPHALT CONCRETE OVERLAY SHALL HAVE A UNIFORM THICKNESS OF APPROXIMATELY 4-1/4 INCHES ON THE MAINLINE AND 2-3/4 INCHES ON THE RAMPS, EXCEPT AS SHOWN ON THE TYPICAL SECTIONS, AND AT SPECIFIED PAVEMENT TRANSITIONS.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER. THE ACTUAL WORK LOCATIONS AND QUANTITIES USED AT THE ENGINEER'S DISCRETION SHALL BE MADE A MATTER OF RECORD BY INCORPORATION INTO THE FINAL CHANGE ORDER GOVERNING COMPLETION OF THIS PROJECT.

DIMENSIONS AND CONDITIONS

DIMENSIONS AND CONDITIONS AT THE SITE SHALL BE VERIFIED BY THE CONTRACTOR AS PER 102.05 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS. PLANS OF THE EXISTING BRIDGES, ROADWAY, AND CULVERTS SHOULD BE UTILIZED AND ARE AVAILABLE FOR REFERENCE AT THE DISTRICT 8 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, LEBANON, OHIO.

GUARDRAIL REPLACEMENT

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO WIDEN THE SHOULDER OR TO REMOVE, GRADE AND REINSTALL GUARDRAIL IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER. NO GUARDRAIL SHALL BE REMOVED UNTIL THE REPLACEMENT MATERIAL IS ON THE SITE READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED ON THIS PROJECT UNTIL SUCH TIME THAT THE ENGINEER IS ASSURED OF SAID COMPLIANCE.

LOCATION OF GUARDRAIL

THE LOCATIONS OF GUARDRAIL RUNS, AS SHOWN ON THESE PLANS, ARE SUBJECT TO ADJUSTMENT PRIOR TO FINAL ACCEPTANCE. THE ENGINEER SHALL BE SATISFIED THAT ALL INSTALLATIONS WILL AFFORD MAXIMUM PROTECTION FOR TRAFFIC.

CONNECTION BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "W-BEAM RAIL SPLICE" AS SHOWN ON STANDARD CONSTRUCTION DRAWING GR-1.1. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE GUARDRAIL ITEMS.

TEMPORARY SOIL EROSION AND SEDIMENT CONTROL

THE FOLLOWING QUANTITIES ARE TO BE USED, AS DIRECTED BY THE ENGINEER, FOR TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES:

ITEM 207 - FILTER FABRIC FENCE	2000	LIN.FT.
ITEM 207 - STRAW OR HAY BALES	500	EACH
ITEM 207 - TEMPORARY SEEDING AND MULCHING	3850	SQ.YD.
ITEM 659 - REPAIR SEEDING AND MULCHING	963	SQ.YD.
ITEM 659 - COMMERCIAL FERTILIZER	0.18	TON
ITEM 659 - WATER	8.30	M.GAL.

REMOVAL OF EXISTING MAINTENANCE ASPHALT OVERLAY

AN EMERGENCY MAINTENANCE RESURFACING PROJECT WAS IMPLEMENTED BY THE DISTRICT MAINTENANCE DEPARTMENT OF THE OHIO DEPARTMENT OF TRANSPORTATION. FOR STATION LIMITS AND ADDITIONAL INFORMATION SEE PROJECT NUMBERS HAM-IR71-1.49/2.70 AND HAM-IR71-8.65/11.09 ARE ON FILE FOR INSPECTION AT THE DISTRICT THE DISTRICT 8 OFFICE OF THE OHIO DEPARTMENT OF TRANSPORTATION, LEBANON, OHIO.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

MAINLINE		103,647 SQ.YD.
SHOULDERS		13,994 SQ.YD.
	TOTAL	117,641 SQ.YD.

ITEM 254 - PAVEMENT PLANING, BITUMINOUS 117,641 SQ.YD.

ABOVE QUANTITY DOES NOT INCLUDE FULL DEPTH PAVEMENT REMOVAL AND REPLACEMENT SECTIONS.

PROTECTION OF EXISTING LANDSCAPING

THE CONTRACTOR SHALL CONSTRICT ALL OF HIS ACTIVITIES, EQUIPMENT STORAGE, AND STAGING TO WITHIN THE CONSTRUCTION LIMITS. UNLESS OTHERWISE IDENTIFIED IN THE PLANS OR PROPOSAL, THE CONSTRUCTION LIMITS ARE IDENTIFIED AS 30' FROM THE EDGE OF THE PAVEMENT. SHOULD THE CONTRACTOR WISH TO USE ANY AREA OUTSIDE THESE LIMITES, HE MUST SUBMIT HIS REQUEST IN WRITING TO THE PROJECT ENGINEER. THE DOCUMENT SUBMITTED MUST CLEARLY INDENTIFY THE AREA THAT THE CONTRACTOR PLANS TO USE AND EXPLAIN THE PROPOSED USE AND RESTORATION OF THE AREA. THE ENGINEER SHALL APPROVE THE REQUEST IN WRITING BEFORE THE CONTRACTOR HAS PERMISSION TO USE THE AREA. PRIOR TO BEGINNING WORK, THE CONTRACTOR SUPERINTENDENT OR HIS REPRESENTATIVE, THE PROJECT ENGINEER, AND A REPRESENTATIVE OF THE MAINTAINING AGENCY SHALL REVIEW AND RECORD ALL LANDSCAPING ITEMS WITHIN THE RIGHT-OF-WAY (BOTH WITHIN AND OUTSIDE THE CONSTRUCTION LIMITS). A RECORD OF THIS REVIEW WILL BE KEPT IN THE PROJECT ENGINEER'S FILES. PRIOR TO FINAL ACCEPTANCE, A FINAL REVIEW OF LANDSCAPING ITEMS WILL BE MADE. ANY ITEM DAMAGED BEYOND THE CONSTRUCTION LIMITES AS DEFINED ABOVE WILL BE REPLACED IN KIND OR AS DIRECTED BY THE PROJECT ENGINEER, AT THE CONTRACTOR'S OWN EXPENSE.

PAVEMENT REPAIR QUANTITIES

THE PAVEMENT REPAIR QUANTITIES SHOWN ON THE GENERAL SUMMARY SHEET HAVE BEEN DETERMINED BY FIELD INSPECTION AND WERE PROVIDED BY ODOT. PAVEMENT REPAIR LOCATIONS THAT ARE ADJACENT TO AND ABUTTING WITH PROPOSED UNDERDRAINS, SHALL BE COMPLETED PRIOR TO THE INSTALLATION OF THE UNDERDRAINS. THE FOLLOWING ESTIMATED QUANTITIES, TO BE USED AT LOCATIONS MARKED BY THE ENGINEER, HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT CLASS FS	2500	SQ.YD.
ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT CLASS C	12,000	SQ.YD.
ITEM 255 - FULL DEPTH PAVEMENT SAWING	43,000	LIN.FT.

SEE ADDITIONAL ITEM 255 NOTE ON SHEET 27A.

CONNECTION TO EXISTING PIPE

WHERE THE PLANS PROVIDE FOR PROPOSED CONDUIT TO BE CONNECTED TO, OR TO CROSS EITHER OVER OR UNDER AN EXISTING SEWER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE HE/SHE STARTS TO LAY THE PROPOSED CONDUIT.
PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT ITEMS.

PLACEMENT OF A 4"Ø RACEWAY INTO VARIOUS CONCRETE BARRIER, TYPE D SHAPES (SEE LIGHTING PLANS FOR RACEWAY LIMITS)

THE PLACEMENT OF THE 4"Ø POLYVINYL CHLORIDE RACEWAY SHALL BE AS DETAILED IN THE PLANS ON SHEET 21. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING MC-9.3. PAYMENT SHALL BE INCLUDED IN THE CONTRACT PRICE FOR THE RESPECTIVE CONCRETE BARRIER ITEMS.

ITEM 201 - CLEARING AND GRUBBING

ALTHOUGH THERE ARE NO TREES AND/OR STUMPS SPECIFICALLY MARKED FOR REMOVAL WITHIN THE LIMITS OF THIS PROJECT, A LUMP SUM QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR ITEM 201 - CLEARING AND GRUBBING. ALL PROVISIONS AS SET FORTH IN THE SPECIFICATIONS UNDER THIS ITEM SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 201 - CLEARING AND GRUBBING.

ITEM 202 - IMPACT ATTENUATOR, REMOVED FOR DISPOSAL

THIS ITEM CONSISTS OF THE REMOVAL AND SATISFACTORY DISPOSAL OF SAND BARREL TYPE AND HI-DRO TYPE IMPACT ATTENUATORS, INCLUDING BARRELS, CUSHION CELLS, PANELS, CABLES AND ANY OTHER RELATED INCIDENTAL ITEMS NOT DESIGNATED OR PERMITTED TO REMAIN IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 202.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 202 - IMPACT ATTENUATOR, REMOVED FOR DISPOSAL.

ITEM 202 - CURB REMOVED, AS PER PLAN A

IN ADDITION TO THE REQUIREMENTS OF ITEM 202 THE FOLLOWING SHALL ALSO APPLY:

AFTER REMOVAL OF THE EXISTING CURB, TAMPED EARTH BACKFILL SHALL BE PLACED IN THE VOID AND THE BERM SHALL BE REGRADED TO ASSURE PROPER DRAINAGE, AS DETAILED IN THE PLANS ON SHEET 20.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 202 - CURB REMOVED, AS PER PLAN A.

ITEM 202 - CURB REMOVED, AS PER PLAN B

IN ADDITION TO THE REQUIREMENTS OF ITEM 202 THE FOLLOWING SHALL ALSO APPLY:

AFTER REMOVAL OF THE EXISTING CURB, THE VOID SHALL BE FILLED WITH ITEM 301, AS DETAILED IN THE PLANS ON SHEET 20.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 202 - CURB REMOVED, AS PER PLAN.

ITEM 202 - RAISED PAVEMENT MARKER REMOVED FOR STORAGE, AS PER PLAN

THIS ITEM SHALL INCLUDE REMOVAL OF THE REFLECTORS ONLY. THE ORIGINAL CASTING SHALL REMAIN IN PLACE. THE REFLECTORS SHALL BE STORED AT A NON-WORK LOCATION ON THE CONSTRUCTION SITE, TO BE PICKED UP BY STATE FORCES. SEE MAINTENANCE OF TRAFFIC GENERAL NOTES FOR LOCATIONS.

A TOTAL OF 41 EACH OF THIS ITEM HAS BEEN INCLUDED IN THE GENERAL SUMMARY.

ITEM 202 - RAISED PAVEMENT MARKER REMOVED FOR STORAGE

THE REFLECTORS SHALL BE STORED AT A NON-WORK LOCATION ON THE CONSTRUCTION SITE, TO BE PICKED UP BY STATE FORCES. SEE MAINTENANCE OF TRAFFIC GENERAL NOTES FOR LOCATIONS.

A TOTAL OF 1557 EACH OF THIS ITEM HAS BEEN INCLUDED IN THE GENERAL SUMMARY.

ITEM 202 - ANCHOR ASSEMBLY REMOVED FOR STORAGE, TYPE E

THIS ITEM SHALL CONSTIST OF REMOVING A TYPE E ANCHOR ASSEMBLY AND STORING IT IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 202. THE ANCHOR ASSEMBLY SHALL BE STORED ON THE CONSTRUCTION SITE, AT A NON-WORK LOCATION, TO BE PICKED UP BY STATE FORCES.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 202 - ANCHOR ASSEMBLY REMOVED FOR STORAGE, TYPE E.

ITEM 203 - LINEAR GRADING, METHOD A

THIS WORK SHALL CONSIST OF THE PREPARATION OF THE SUBGRADE FOR THE MEDIAN SHOULDER (SECTION 2) PAVING BY EXCAVATING THE EXISTING MATERIAL, TO REMOVE ANY UNSTABLE MATERIAL AND BY SHAPING AND COMPACTING THE SUBGRADE TO A WIDTH OF 1'-6" (EACH SIDE) TO A DEPTH AS SHOWN IN THE PLANS, OR AS DIRECTED BY THE ENGINEER. UNSOUND OR BROKEN EDGES OF THE EXISTING BITUMINOUS PAVEMENT SHALL FIRST BE TRIMMED TO A LINE ESTABLISHED BY THE ENGINEER. THE EXISTING CONCRETE MEDIAN AND CURBS SHALL BE REMOVED PRIOR TO THE BEGINNING OF THIS OPERATION. COMPACTION SHALL BE CARRIED OUT TO THE SATISFACTION OF THE ENGINEER BY MEANS OF A TRENCH ROLLER AS PER ITEM, 401.11. AREAS GRADED IN EXCESS OF DEPTHS SPECIFIED OR DIRECTED BY THE ENGINEER, SHALL BE BACKFILLED TO GRADE USING ITEM 617, COMPACTED AGGREGATE AT THE CONTRACTOR'S EXPENSE. EXCAVATED MATERIAL SHALL BE DISPOSED OF AS DIRECTED BY THE ENGINEER.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 203 - LINEAR GRADING, METHOD A.

ITEM 203 - LINEAR GRADING, METHOD B

THIS WORK SHALL CONSIST OF THE PREPARATION OF THE SUBGRADE FOR SHOULDER RECONSTRUCTION PAVING (SECTION 2) OF BOTH OUTSIDE MAINLINE SHOULDERS (SEE PLAN SHEETS FOR LIMITS) BY EXCAVATING THE EXISTING MATERIAL, TO REMOVE ANY UNSTABLE MATERIAL AND BY SHAPING AND COMPACTING THE SUBGRADE TO A WIDTH 10'-0" TO 8'-0" AND TO A DEPTH AS SHOWN IN THE PLANS, OR AS DIRECTED BY THE ENGINEER. UNSOUND OR BROKEN EDGES OF THE EXISTING BITUMINOUS PAVEMENT SHALL FIRST BE TRIMMED TO A LINE ESTABLISHED BY THE ENGINEER. COMPACTION SHALL BE CARRIED OUT TO THE SATISFACTION OF THE ENGINEER BY MEANS OF A TRENCH ROLLER AS PER ITEM, 401.11. AREAS GRADED IN EXCESS OF DEPTH SPECIFIED OR DIRECTED BY THE ENGINEER, SHALL BE BACKFILLED TO GRADE USING ITEM 617, COMPACTED AGGREGATE AT THE CONTRACTOR'S EXPENSE. EXCAVATED MATERIAL SHALL BE DISPOSED OF AS DIRECTED BY THE ENGINEER.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 203 - LINEAR GRADING, METHOD B.

ITEM 203 - LINEAR GRADING, METHOD C

THIS WORK SHALL CONSIST OF THE PREPARATION OF THE SUBGRADE FOR SHOULDER WIDENING PAVING OF THE RIGHT SIDE RAMP SHOULDER (SECTION 2) BY EXCAVATING THE EXISTING MATERIAL, TO REMOVE ANY UNSTABLE MATERIAL AND BY SHAPING AND COMPACTING THE SUBGRADE TO A WIDTH OF 3'-0" AND TO A DEPTH AS SHOWN IN IN THE PLANS, OR AS DIRECTED BY THE ENGINEER. UNSOUND OR BROKEN EDGES OF THE EXISTING BITUMINOUS PAVEMENT SHALL FIRST BE TRIMMED TO A LINE ESTABLISHED BY THE ENGINEER. COMPACTION SHALL BE CARRIED OUT TO THE SATISFACTION OF THE ENGINEER BY MEANS OF A TRENCH ROLLER, AS PER ITEM, 401.11. AREAS GRADED IN EXCESS OF DEPTH SPECIFIED OR DIRECTED BY THE ENGINEER, SHALL BE BACKFILLED TO GRADE USING ITEM 617, COMPACTED AGGREGATE AT THE CONTRACTOR'S EXPENSE. EXCAVATED MATERIAL SHALL BE DISPOSED OF AS DIRECTED BY THE ENGINEER.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 203 - LINEAR GRADING, METHOD C.

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR

IN ADDITION TO THE REQUIREMENTS OF ITEM 251, THE PAVEMENT SHALL BE REPAIRED TO AN AVERAGE DEPTH OF FOUR INCHES.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR.

AN ESTIMATED QUANTITY OF 470 SQ. YD. HAS BEEN CARRIED TO THE GENERAL SUMMARY, TO BE USED AT LOCATIONS MARKED BY THE ENGINEER.

GENERAL NOTES

ITEM 304 - AGGREGATE BASE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ITEM 304 THE FOLLOWING SHALL APPLY:

MATERIALS FURNISHED FOR THESE ITEMS SHALL EXCLUDE ALL SLAG EXCEPT GRANULATED SLAG OR CRUSHED AIR-COOLED BLAST FURNACE SLAG. THE MAXIMUM TOTAL PERCENT PASSING THE No. 200 SIEVE FOR 304 SHALL BE 8 PERCENT AS OPPOSED TO THE 13 PERCENT SHOWN IN 304.02.

THE ABOVE REQUIREMENTS APPLYS TO THE 9", 6" AND VARIABLE DEPTH THICKNESS OF THIS ITEM AS SHOWN IN THE PLANS. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT COST BID FOR THE PERTINENT 304 ITEMS.

ITEM 310 - SUBBASE, AS PER PLAN, VARIABLE DEPTH

IN ADDITION TO THE REQUIREMENTS OF ITEM 304 THE FOLLOWING SHALL APPLY:

MATERIALS FURNISHED FOR THESE ITEMS SHALL EXCLUDE ALL SLAG EXCEPT GRANULATED SLAG OR CRUSHED AIR-COOLED BLAST FURNACE SLAG AND SHALL EXCLUDE BROKEN SALVAGED PORTLAND CEMENT PAVEMENT.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT COST BID FOR ITEM 310 - SUBBASE, AS PER PLAN, VARIABLE DEPTH.

ITEM 407 - TACK COAT USING SS 924

THE RATE OF APPLICATION OF TACK COAT SHALL BE SUBJECT TO ADJUSTMENT, AS DIRECTED BY THE ENGINEER. PLAN QUANTITIES INDICATE AN AVERAGE APPLICATION RATE OF 0.075 GALLONS PER SQUARE YARD OF TACK COAT FOR ESTIMATING PURPOSES COST.

ITEM 601 - RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING A REINFORCED CONCRETE SLAB BETWEEN THE CONCRETE BARRIER WALLS IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 601, AND AS DETAILED IN THE PLANS ON SHEETS 8 & 11.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 601 - RIPRAP, USING 6" REINFORCED CONCRETE SLAB, AS PER PLAN.

ITEM 601 - PAVED GUTTER, TYPE 1-2, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING A REINFORCED CONCRETE PAVED GUTTER BETWEEN THE CONCRETE BARRIER WALLS IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 601, AND AS DETAILED IN THE PLANS ON SHEETS 14 & 15 (SECTION 2). FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING MC-5.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 601 - PAVED GUTTER, TYPE 1-2, AS PER PLAN.

ITEM 604 - INLET, NO. 3B, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING A NO. 3B INLET WITH ONE SLOTTED OPENING IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 604, AND AS DETAILED IN THE PLANS ON SHEET 136B. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING I-3A & B.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 604 - INLET, NO. 3B, AS PER PLAN.

ITEM 604 - INLET, NO. 3B50, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING A NO. 3B50 INLET WITH ONE SLOTTED OPENING IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 604, AND AS DETAILED IN THE PLANS ON SHEET 136B. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING I-3A & B.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 604 - INLET, NO. 3B50, AS PER PLAN.

ITEM 604 - INLET, NO. 3B50, AS PER PLAN A

THIS ITEM SHALL CONSIST OF CONSTRUCTING A NO. 3B50 INLET OF VARYING WIDTH IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 604, AND AS DETAILED IN THE PLANS ON SHEET 136B. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING I-3A & B.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 604 - INLET, NO. 3B50, AS PER PLAN A.

ITEM 605 - SHALLOW UNDERDRAIN, AS PER PLAN

FOR DETAILS AND NOTES PERTAINING TO THE INSTALLATION OF THIS ITEM, SEE SHEET 137A. IN CASE ROCK DOES NOT ALLOW THE INSTALLATION OF A PREFABRICATED EDGE DRAIN SYSTEM, A PIPE UNDERDRAIN SYSTEM SHALL BE INSTALLED.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 605 - SHALLOW UNDERDRAIN, AS PER PLAN.
SEE ADDITIONAL ITEM 605 NOTE ON SHEET 27A.

ITEM 606 - BRIDGE TERMINAL ASSEMBLY, TYPE F, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING A GUARDRAIL TERMINAL ASSEMBLY IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 606 AND AS DETAILED IN THE PLANS ON SHEET 22. FOR INFORMATION NOT SHOWN ON THE PLAN DETAIL, REFER TO STANDARD DRAWING GR-3A.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 606 - BRIDGE TERMINAL ASSEMBLY, TYPE F, AS PER PLAN.

ITEM 606 - BRIDGE TERMINAL ASSEMBLY, TYPE 1, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING A GUARDRAIL TERMINAL ASSEMBLY IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 606 AND AS DETAILED IN THE PLANS ON SHEET 22. FOR INFORMATION NOT SHOWN ON THE PLAN DETAIL, REFER TO STANDARD DRAWING GR-3.1.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 606 - BRIDGE TERMINAL ASSEMBLY, TYPE 1, AS PER PLAN.

ITEM 606 - ANCHOR ASSEMBLY, TYPE E

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING AN ET-2000, OPTION "B", GUARDRAIL END TERMINAL AS MANUFACTURED BY SYRO STEEL COMPANY, 1170 N. STATE STREET, GIRARD, OHIO 44420 (TELEPHONE: 216-545-4373).

THE LENGTH OF THE ET-2000 SYSTEM IS CONSIDERD TO BE 50' INCLUSIVE OF TWO 25' LONG RAIL ELEMENTS. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND AT THE LOCATIONS SHOWN IN THE PLANS.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT BID PRICE FOR ITEM 606, EACH, ANCHOR ASSEMBLY, TYPE E. AND SHALL INCLUDE ALL LABOR, TOOLS, EQUIPMENT AND MATERIALS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL ANCHOR ASSEMBLY SYSTEM, INCLUDING ALL RELATED HARDWARE, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER.

ITEM 607 - FENCE, TYPE CLT, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING A FENCE, TYPY CLT IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 607, AND AS DETAILED IN THE PLANS ON SHEET 24C. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING F-1.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 607 - FENCE, TYPE CLT, AS PER PLAN.

ITEM 609 - COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING A CONCRETE CURB IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 609, AND AS DETAILED IN THE PLANS ON SHEET 24B. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING BP-5.1.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 611 - COMBINATION CURB AND GUTTER, TYPE 2, AS PER PLAN.

ITEM 611 - REINFORCED CONCRETE APPROACH SLAB (T=17"), AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING A 17" REINFORCED CONCRETE APPROACH SLAB IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 611, AND AS DETAILED IN THE PLANS ON SHEET 19, 21, AND 24B. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWINGS AS-1-81 AND BP-2.1. THE ENGINEER SHALL DETERMINE IF ADDITIONAL REINFORCING STEEL IS REQUIRED AND AS TO ITS PLACEMENT.

THE REINFORCING STEEL FOR THE APPROACH SLAB OF THIS STRUCTURE SHALL BE EPOXY COATED IN CONFORMANCE WITH 509. TWO SEPARATE THICKNESSES OF CLEAR OR OPAQUE POLYETHYLENE FILM, 705.06, SHALL BE PLACED ON THE PREPARED SUBBASE AND WHERE THE APPROACH SLAB IS TO BE CONSTRUCTED. THE POLYETHYLENE FILMS SHALL COMPLETELY COVER THE FULL LEANTH AND WIDTH OF THE SUBBASE BETWEEN THE SIDEWALL FORMS FOR THE APPROACH SLAB.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 611 - REINFORCED CONCRETE APPROACH SLAB (T=17"), AS PER PLAN.

ITEM 611 - REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING A 15" REINFORCED CONCRETE APPROACH SLAB IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 611, AND AS DETAILED IN THE PLANS ON SHEET 18. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWINGS AS-1-81 AND BP-2.1. THE ENGINEER SHALL DETERMINE IF ADDITIONAL REINFORCING STEEL IS REQUIRED AND AS TO ITS PLACEMENT.

THE REINFORCING STEEL FOR THE APPROACH SLAB OF THIS STRUCTURE SHALL BE EPOXY COATED IN CONFORMANCE WITH 509. TWO SEPARATE THICKNESSES OF CLEAR OR OPAQUE POLYETHYLENE FILM, 705.06, SHALL BE PLACED ON THE PREPARED SUBBASE AND WHERE THE APPROACH SLAB IS TO BE CONSTRUCTED. THE POLYETHYLENE FILMS SHALL COMPLETELY COVER THE FULL LEANTH AND WIDTH OF THE SUBBASE BETWEEN THE SIDEWALL FORMS FOR THE APPROACH SLAB.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 611 - REINFORCED CONCRETE APPROACH SLAB (T=15"), AS PER PLAN.

ITEM 611 - REINFORCED CONCRETE APPROACH SLAB (VARIABLE THICKNESS)

THIS ITEM SHALL CONSIST OF CONSTRUCTING A VARIABLE THICKNESS REINFORCED CONCRETE APPROACH SLAB IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 611, AND AS DETAILED IN THE PLANS ON SHEET 18 & 19. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWINGS AS-1-81 AND BP-2.1. THE ENGINEER SHALL DETERMINE IF ADDITIONAL REINFORCING STEEL IS REQUIRED AND AS TO ITS PLACEMENT.

THE REINFORCING STEEL FOR THE APPROACH SLAB OF THIS STRUCTURE SHALL BE EPOXY COATED IN CONFORMANCE WITH 509. TWO SEPARATE THICKNESSES OF CLEAR OR OPAQUE POLYETHYLENE FILM, 705.06, SHALL BE PLACED ON THE PREPARED SUBBASE AND WHERE THE APPROACH SLAB IS TO BE CONSTRUCTED. THE POLYETHYLENE FILMS SHALL COMPLETELY COVER THE FULL LEANTH AND WIDTH OF THE SUBBASE BETWEEN THE SIDEWALL FORMS FOR THE APPROACH SLAB.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 611 - REINFORCED CONCRETE APPROACH SLAB (VARIABLE THICKNESS).

ITEM 612 - CONCRETE MEDIAN, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING A CONCRETE MEDIAN OF VARYING WIDTH BETWEEN A PROPOSED CONCRETE BARRIER WALL AND EXISTING CONCRETE MEDIAN WITH BARRIER GUARDRAIL IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 612, AND AS DETAILED IN THE PLANS ON SHEET 22.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 612 - CONCRETE MEDIAN, AS PER PLAN.

ITEM 617 - COMPACTED AGGREGATE, TYPE A, AS PER PLAN

WHERE GUARDRAIL IS TO BE INSTALLED, THE COMPACTED AGGREGATE TYPE A SHALL BE IN PLACE AND APPROVED BY THE ENGINEER PRIOR TO ANY GUARDRAIL INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL RESULT IN THE TOTAL REMOVAL OF THE GUARDRAIL AND SUBSEQUENT REINSTALLATION AT THE CONTRACTOR'S EXPENSE.
SEE ADDITIONAL ITEM 617 NOTE ON SHEET 27A.

ITEM 622 - CONCRETE BARRIER, TYPE A, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING A TYPE A CONCRETE BARRIER OF VARYING WIDTHS IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 622, AND AS DETAILED IN THE PLANS ON SHEETS 18, 23 & 24A. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING MC-9.3.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, TYPE A, AS PER PLAN A.

ITEM 622 - CONCRETE BARRIER, TYPE B, AS PER PLAN A

THIS ITEM SHALL CONSIST OF CONSTRUCTING A TYPE B CONCRETE BARRIER WITHOUT THE 9" FOOTING IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 622, AND AS DETAILED IN THE PLANS ON SHEET 16. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING MC-9.3.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, TYPE B, AS PER PLAN A.

ITEM 622 - CONCRETE BARRIER, TYPE B, AS PER PLAN B

THIS ITEM SHALL CONSIST OF CONSTRUCTING A TYPE B CONCRETE BARRIER OF VARYING WIDTHS IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 622, AND AS DETAILED IN THE PLANS ON SHEETS 18 & 19. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING MC-9.3.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, TYPE B AS PER PLAN B.

ITEM 622 - CONCRETE BARRIER, TYPE B, AS PER PLAN C

THIS ITEM SHALL CONSIST OF CONSTRUCTING A TYPE B CONCRETE BARRIER WITH A FOOTING WIDTH OF 12" ON ONE SIDE IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 622, AND AS DETAILED IN THE PLANS ON SHEET 16. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING MC-9.3.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, TYPE B, AS PER PLAN C.

ITEM 622 - CONCRETE BARRIER, TYPE B-50, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING A TYPE B-50 CONCRETE BARRIER OF VARYING WIDTH IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 622, AND AS DETAILED IN THE PLANS ON SHEET 24B. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING MC-9.3.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, TYPE B-50, AS PER PLAN.

ITEM 622 - CONCRETE BARRIER, TYPE B-50, AS PER PLAN A

THIS ITEM SHALL CONSIST OF CONSTRUCTING A TYPE B-50 CONCRETE BARRIER OF VARYING WIDTH IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 622, AND AS DETAILED IN THE PLANS ON SHEET 24B. THE BARRIER FOOTING WIDTH ALSO VARIES, AS SHOWN IN THE PLAN DETAIL, FROM 6" TO 0". FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING MC-9.3.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, TYPE B-50, AS PER PLAN A.

ITEM 622 - CONCRETE BARRIER, TYPE B-50, AS PER PLAN B

THIS ITEM SHALL CONSIST OF CONSTRUCTING A TYPE B-50 CONCRETE BARRIER IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 622, AND AS DETAILED IN THE PLANS ON SHEET 21. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING MC-9.3.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, TYPE B-50, AS PER PLAN B.

ITEM 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING A TYPE D CONCRETE BARRIER IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 622, AND AS DETAILED IN THE PLANS ON SHEET 21. THE BACK 6" OF THE FOOTING SHALL BE OMITTED FOR PLACEMENT ALONG THE FACE OF EXISTING RETAINING WALLS. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING MC-9.3.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN.

ITEM 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN A

THIS ITEM SHALL CONSIST OF CONSTRUCTING A TYPE D CONCRETE BARRIER IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 622, AND AS DETAILED IN THE PLANS ON SHEET 21. THE FRONT FOOTING SHALL BE 24". RATHER THAN THE NORMAL 6". FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING MC-9.3.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN A.

ITEM 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN B

THIS ITEM SHALL CONSIST OF CONSTRUCTING A TYPE D CONCRETE BARRIER IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 622, AND AS DETAILED IN THE PLANS ON SHEET 23. THE TOP OF THE EXISTING RETAINING WALL SHALL BE RETROFITED TO ACCOMODATE A TYPE D BARRIER SHAPE. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING MC-9.3.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN B.

ITEM 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN C

THIS ITEM SHALL CONSIST OF CONSTRUCTING A TYPE D CONCRETE BARRIER WERE THE FRONT FOOTING VARIES IN WIDTH FROM 12¾"± TO 35½"± IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 622, AND AS DETAILED IN THE PLANS ON SHEET 24C. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING MC-9.3.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN C.

GENERAL NOTES

ITEM 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN D

THIS ITEM SHALL CONSIST OF CONSTRUCTING A TYPE D CONCRETE BARRIER WITH A TOP WIDTH OF 15" AND A FOOTING MODIFIED AS SHOWN ON SHEET 22. FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING MC-9.3.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, TYPE D, AS PER PLAN D.

ITEM 622 - CONCRETE BARRIER, TYPE D-50, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING A TYPE D-50 CONCRETE BARRIER IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 622, AND AS DETAILED IN THE PLANS ON SHEET 21. THE FRONT PORTION OF THE FOOTING SHALL BE 24" RATHER THAN THE NORMAL 6". FOR INFORMATION NOT SHOWN IN THE PLAN DETAILS, REFER TO STANDARD DRAWING MC-9.3.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 622 - CONCRETE BARRIER, TYPE D-50, AS PER PLAN.

ITEM 630 - BARRIER WALL ASSEMBLY, TYPE TC-21.41, DESIGN 1, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING A TYPE TC-21.41 DESIGN 1, BARRIER WALL ASSEMBLY IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 630, AND AS DETAILED IN THE PLANS ON SHEET 18. FOR THIS ITEM CONSTRUCT ONLY HALF OF THE END BULK HEAD TO ACCOMADATE A TYPE D BARRIER. FOR INFORMATION NOT SHOWN IN THE PLAN DETAIL, REFER TO STANDARD DRAWING TC-21.41.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 630 - BARRIER WALL ASSEMBLY, TYPE TC-21.41, DESIGN 1, AS PER PLAN.

ITEM 630 - BARRIER WALL ASSEMBLY, TYPE TC-21.41, DESIGN 2, AS PER PLAN

THIS ITEM SHALL CONSIST OF CONSTRUCTING A TYPE TC-21.41 DESIGN 2, BARRIER WALL ASSEMBLY IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 630, AND AS DETAILED IN THE PLANS ON SHEET 18. FOR INFORMATION NOT SHOWN IN THE PLAN DETAIL, REFER TO STANDARD DRAWING TC-21.41.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 630 - BARRIER WALL ASSEMBLY, TYPE TC-21.41, DESIGN 2, AS PER PLAN.

ITEM 659 - SEEDING AND MULCHING

AN ADDITIONAL QUANTITY OF 1,000 SQUARE YARDS OF SEEDING AND MULCHING AND .09 TONS OF FERTILIZER AND 3 M. GALLONS OF WATER HAS BEEN INCLUDED IN THE GENERAL SUMMARY TO SEED EXISTING ERODED OR UNVEGETATED AREAS. ANY AREA OUTSIDE THOSE DESIGNATED TO BE SEEDED WHICH ARE DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AND RESEEDED AT HIS EXPENSE, AS DIRECTED BY THE ENGINEER.

ITEM 670 - DITCH EROSION PROTECTION

IN ADDITION TO THE REQUIREMENTS OF ITEM 670 AND ITEM 108.04, THE FOLLOWING SHALL ALSO APPLY:

ROCK OF A STABLE NATURE OR TURF OF A STABLE NATURE SHALL NOT BE REMOVED TO PLACE THIS ITEM. THE ENGINEER SHALL CHECK AND NON-PERFORM QUANTITIES, OR ADJUST LOCATIONS AND QUANTITIES FOR THIS ITEM DURING CONSTRUCTION, AS FIELD CONDITIONS WARRANT.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 670 - DITCH EROSION PROTECTION.

ITEM 413 - SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINT

FOR WORK TO BE PERFORMED UNDER THIS ITEM, SEE PROPOSAL NOTE. THE WORK SHALL BE PERFORMED AT ALL TRANSVERSE JOINT LOCATIONS OF THE MAINLINE AND THE RAMPS. FOR DETAIL SEE SHEET 20.

QUANTITIES SHOWN ARE BASED ON SAW CUTTING AND SEALING THE FULL WIDTH PAVEMENT SURFACE COURSE INCLUDING SHOULDERS. THE INTERMEDIATE COURSE OF THE LANES AND SHOULDERS, WHICH ARE TO BE USED DURING THE STAGES OF CONSTRUCTION, SHALL BE SAWED ONLY, AT NO ADDITIONAL COST TO THE PROJECT.

THE FOLLOWING QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY:

	SURFACE COURSE	
MAINLINE	159,147	LIN.FT.
RAMPS	24,960	LIN.FT.
TOTALS	184,107	LIN.FT.

A TOTAL OF 167,810 LIN.FT. ITEM 413 - SAWING AND SEALING ASPHALT CONCRETE PAVEMENT JOINTS HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM SPECIAL - IMPACT ATTENUATOR, HEX FOAM SANDWICH SYSTEM, MODEL No. 209508H8S

THIS WORK SHALL CONSIST OF AN IMPACT ATTENUATOR UNIT AND A BACKUP ASSEMBLY SUPPLIED BY ENERGY ABSORPTION SYSTEM, INC., ONE E. WACKER DRIVE, CHICAGO, ILLINOIS 60601, AND PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND PLAN DETAIL SHEETS AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADE, THICKNESSES AND TYPICAL SECTIONS SHOWN ON THE PLANS OR ESTABLISHED BY THE ENGINEER. THE TYPE REQUIRED AND ITS MODEL NUMBER FOR EACH LOCATION IS AS LISTED BELOW.

INCLUDED IN THE COST OF THE IMPACT ATTENUATOR SHALL BE ALL EXCAVATION, REMOVAL OF OTHER EXISTING CONFLICTING MATERIALS, CONCRETE AND REINFORCING STEEL NECESSARY TO CONSTRUCT THE INSTALLATION PAD, CONCRETE BACKUP AND CABLE ANCHORAGE FOOTER ACCORDING TO THE MANUFACTURER'S APPLICABLE DETAIL DESIGN SHEETS. REINFORCING STEEL (WHERE REQUIRED) SHALL MEET THE REQUIREMENTS OF 509.02. ALSO INCLUDED IN THE ATTENUATOR COST ARE ANY OTHER RELATED INCIDENTAL ITEMS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL HEX FOAM SANDWICH SYSTEM IMPACT ATTENUATOR.

THE SAFETY-FLEX BELT ASSEMBLY ON THE NOSE OF THE ATTENUATOR SHALL BE MARKED WITH SOLID YELLOW REFLECTIVE MATERIAL. THE FENDER PANELS SHALL BE MARKED WITH WHITE REFLECTIVE MATERIAL IN VERTICAL STRIPES 4" IN WIDTH. CENTER OF THE STRIPE SHALL BE LOCATED 6" FROM THE REAR OF EACH PANEL. FOR ADDITIONAL INFORMATION, SEE THE ROADWAY PLANS AND DETAIL ON SHEET 19.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM SPECIAL-IMPACT ATTENUATOR, HEX FOAM SANDWICH SYSTEM, MODEL No. 209508H8S.

LOCATION AND DESCRIPTION INFORMATION AS FOLLOWS:

Sht No.	LOCATION	TYPE	BACKUP	MODEL No.
98	Sta. 157+60.22N (NB I-471 & RAMP GG)	Medium (8 Bay)	Concrete	209508H8S
99	Sta. 161+92.67S (SB I-71 & SB I-471)	Medium (8 Bay)	Concrete	209508H8S
102	Sta. 182+43.7NB (NB I-71 & RAMP RC)	Medium (8 Bay)	Concrete	209508H8S
104	Sta. 188+32RE (Ramp RE & RC)	Medium (8 Bay)	Concrete	209508H8S
106	Sta. 196+40.4SB (SB I-71 & Ramp RA/GA)	Medium (8 Bay)	Concrete	209508H8S
111	Sta. 15+38.45NBR (NB READING RD & RAMP RD)	Medium (8 Bay)	Concrete	209508H8S

ITEM SPECIAL - IMPACT ATTENUATOR, HEX FOAM SANDWICH SYSTEM, MODEL No. 111311H8S

THIS WORK SHALL CONSIST OF AN IMPACT ATTENUATOR UNIT AND A BACKUP ASSEMBLY SUPPLIED BY ENERGY ABSORPTION SYSTEM, INC., ONE E. WACKER DRIVE, CHICAGO, ILLINOIS 60601, AND PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND PLAN DETAIL SHEETS AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADE, THICKNESSES AND TYPICAL SECTIONS SHOWN ON THE PLANS OR ESTABLISHED BY THE ENGINEER. THE TYPE REQUIRED AND ITS MODEL NUMBER FOR EACH LOCATION IS AS LISTED BELOW.

INCLUDED IN THE COST OF THE IMPACT ATTENUATOR SHALL BE ALL EXCAVATION, REMOVAL OF OTHER EXISTING CONFLICTING MATERIALS, CONCRETE AND REINFORCING STEEL NECESSARY TO CONSTRUCT THE INSTALLATION PAD, CONCRETE BACKUP AND CABLE ANCHORAGE FOOTER ACCORDING TO THE MANUFACTURER'S APPLICABLE DETAIL DESIGN SHEETS. REINFORCING STEEL (WHERE REQUIRED) SHALL MEET THE REQUIREMENTS OF 509.02. ALSO INCLUDED IN THE ATTENUATOR COST ARE ANY OTHER RELATED INCIDENTAL ITEMS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL HEX FOAM SANDWICH SYSTEM IMPACT ATTENUATOR.

THE SAFETY-FLEX BELT ASSEMBLY ON THE NOSE OF THE ATTENUATOR SHALL BE MARKED WITH SOLID YELLOW REFLECTIVE MATERIAL. THE FENDER PANELS SHALL BE MARKED WITH WHITE REFLECTIVE MATERIAL IN VERTICAL STRIPES 4" IN WIDTH. CENTER OF THE STRIPE SHALL BE LOCATED 6" FROM THE REAR OF EACH PANEL. FOR ADDITIONAL INFORMATION, SEE THE ROADWAY PLANS AND DETAIL ON SHEET 19.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM SPECIAL-IMPACT ATTENUATOR, HEX FOAM SYSTEM, MODEL No. 111311H8S.

LOCATION AND DESCRIPTION INFORMATION AS FOLLOWS:

Sht No.	LOCATION	TYPE	BACKUP	MODEL No.
94	Sta. 134+71.28SB (SB I-71 & RAMP E)	Narrow (8 Bay)	Concrete	111311H8S
104	Sta. 187+62.5RA (Ramp RA & GA)	Narrow (8 Bay)	Concrete	111311H8S

ITEM SPECIAL - IMPACT ATTENUATOR, HEX FOAM SANDWICH SYSTEM, MODEL No. 209508H6S

THIS WORK SHALL CONSIST OF AN IMPACT ATTENUATOR UNIT AND A BACKUP ASSEMBLY SUPPLIED BY ENERGY ABSORPTION SYSTEM, INC., ONE E. WACKER DRIVE, CHICAGO, ILLINOIS 60601, AND PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND PLAN DETAIL SHEETS AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADE, THICKNESSES AND TYPICAL SECTIONS SHOWN ON THE PLANS OR ESTABLISHED BY THE ENGINEER. THE TYPE REQUIRED AND ITS MODEL NUMBER FOR EACH LOCATION IS AS LISTED BELOW.

INCLUDED IN THE COST OF THE IMPACT ATTENUATOR SHALL BE ALL EXCAVATION, REMOVAL OF OTHER EXISTING CONFLICTING MATERIALS, CONCRETE AND REINFORCING STEEL NECESSARY TO CONSTRUCT THE INSTALLATION PAD, CONCRETE BACKUP AND CABLE ANCHORAGE FOOTER ACCORDING TO THE MANUFACTURER'S APPLICABLE DETAIL DESIGN SHEETS. REINFORCING STEEL (WHERE REQUIRED) SHALL MEET THE REQUIREMENTS OF 509.02. ALSO INCLUDED IN THE ATTENUATOR COST ARE ANY OTHER RELATED INCIDENTAL ITEMS NECESSARY TO CONSTRUCT A COMPLETE AND FUNCTIONAL HEX FOAM SANDWICH SYSTEM IMPACT ATTENUATOR.

THE SAFETY-FLEX BELT ASSEMBLY ON THE NOSE OF THE ATTENUATOR SHALL BE MARKED WITH SOLID YELLOW REFLECTIVE MATERIAL. THE FENDER PANELS SHALL BE MARKED WITH WHITE REFLECTIVE MATERIAL IN VERTICAL STRIPES 4" IN WIDTH. CENTER OF THE STRIPE SHALL BE LOCATED 6" FROM THE REAR OF EACH PANEL. FOR ADDITIONAL INFORMATION, SEE THE ROADWAY PLANS AND DETAIL ON SHEET 19.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM SPECIAL-IMPACT ATTENUATOR, HEX FOAM SYSTEM, MODEL No. 209508H6S.

LOCATION AND DESCRIPTION INFORMATION AS FOLLOWS:

Sht No.	LOCATION	TYPE	BACKUP	MODEL No.
95	Sta. 139+05B (RAMP B to NB I-71)	Medium (6 Bay)	Concrete	209508H6S

ITEM SPECIAL - PATCHING EXISTING PAVED SHOULDERS

THIS ITEM SHALL BE USED, AS DIRECTED BY THE ENGINEER, TO PATCH DETERIORATED PAVED SHOULDERS WHERE DETERIORATED AREAS EXIST. THIS WORK SHALL CONSIST OF REMOVING ALL LOOSE DEBRIS, SQUARING UP THE AREA, APPLYING TACK COAT AND COMPACTING A MINIMUM OF 6" OF ITEM 301 MATERIAL IN THE VOID TO FINISH FLUSH WITH THE SURROUNDING SURFACE.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM SPECIAL - PATCHING EXISTING PAVED SHOULDER. AN ESTIMATED QUANTITY OF 300 CU.YD, FOR APPROXIMATELY 50 LOCATIONS, HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM SPECIAL - REPLACEMENT IMPACT ATTENUATOR, MODEL No. 111311H8S

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION, REPAIRING, AND OTHERWISE RESTORING THE IMPACT ATTENUATOR IN ACCORDANCE WITHIN THE MANUFACTURER'S MAINTENANCE INSTRUCTIONS WHILE IT IS IN USE ON THE PROJECT. SUCH REPAIRS SHALL BE PERFORMED WITHIN 24 HOURS MINIMUM OF THE INCIDENT WHICH CAUSED DAMAGE TO THE PROJECT. IN ADDTION TO ANY EXTRA UNITS SUPPLIED FOR THIS PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING ALL NECESSARY MATERIALS, LABOR, AND EQUIPMENT REQUIRED TO PERFORM THE ABOVE DESCRIBED RESTORATION OF THE ATTENUATOR.

AN ESTIMATED QUANTITY AS LISTED BELOW SHALL BE USED AS DIRECTED BY THE ENGINEER FOR USE IN THE ABOVE MENTIONED RESTORATION ONLY WHEN IT IS DECIDED THAT MINOR OR MAJOR REPAIRS CANNOT BE PERFORMED IN A SAFE AND TIMELY MANOR:

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM SPECIAL-REPLACEMENT IMPACT ATTENUATOR, MODEL No. 111311H8S.

DESCRIPTION AS FOLLOWS:

TYPE	BACKUP	MODEL No.	QUANTITY
Narrow (8 Bay)	Concrete	111311H8S	1 EACH

FOR LOCATIONS OF THE PROPOSED ATTENUATORS, SEE THE PLAN SHEETS AND HEX FOAM SANDWICH SYSTEM NOTES THIS SHEET.

ITEM SPECIAL - REPLACEMENT IMPACT ATTENUATOR, MODEL No. 209508H6S

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION, REPAIRING, AND OTHERWISE RESTORING THE IMPACT ATTENUATOR IN ACCORDANCE WITHIN THE MANUFACTURER'S MAINTENANCE INSTRUCTIONS WHILE IT IS IN USE ON THE PROJECT. SUCH REPAIRS SHALL BE PERFORMED WITHIN 24 HOURS MINIMUM OF THE INCIDENT WHICH CAUSED DAMAGE TO THE PROJECT. IN ADDTION TO ANY EXTRA UNITS SUPPLIED FOR THIS PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING ALL NECESSARY MATERIALS, LABOR, AND EQUIPMENT REQUIRED TO PERFORM THE ABOVE DESCRIBED RESTORATION OF THE ATTENUATOR.

AN ESTIMATED QUANTITY AS LISTED BELOW SHALL BE USED AS DIRECTED BY THE ENGINEER FOR USE IN THE ABOVE MENTIONED RESTORATION ONLY WHEN IT IS DECIDED THAT MINOR OR MAJOR REPAIRS CANNOT BE PERFORMED IN A SAFE AND TIMELY MANOR:

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM SPECIAL-REPLACEMENT IMPACT ATTENUATOR, MODEL No. 209508H6S.

DESCRIPTION AS FOLLOWS:

TYPE	BACKUP	MODEL No.	QUANTITY
Medium (6 Bay)	Concrete	209508H6S	1 EACH

FOR LOCATIONS OF THE PROPOSED ATTENUATORS, SEE THE PLAN SHEETS AND HEX FOAM SANDWICH SYSTEM NOTES THIS SHEET.

ITEM SPECIAL - REPLACEMENT IMPACT ATTENUATOR, MODEL No. 209508H8S

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION, REPAIRING, AND OTHERWISE RESTORING THE IMPACT ATTENUATOR IN ACCORDANCE WITHIN THE MANUFACTURER'S MAINTENANCE INSTRUCTIONS WHILE IT IS IN USE ON THE PROJECT. SUCH REPAIRS SHALL BE PERFORMED WITHIN 24 HOURS MINIMUM OF THE INCIDENT WHICH CAUSED DAMAGE TO THE PROJECT. IN ADDTION TO ANY EXTRA UNITS SUPPLIED FOR THIS PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING ALL NECESSARY MATERIALS, LABOR, AND EQUIPMENT REQUIRED TO PERFORM THE ABOVE DESCRIBED RESTORATION OF THE ATTENUATOR.

AN ESTIMATED QUANTITY AS LISTED BELOW SHALL BE USED AS DIRECTED BY THE ENGINEER FOR USE IN THE ABOVE MENTIONED RESTORATION ONLY WHEN IT IS DECIDED THAT MINOR OR MAJOR REPAIRS CANNOT BE PERFORMED IN A SAFE AND TIMELY MANOR:

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM SPECIAL-REPLACEMENT IMPACT ATTENUATOR, MODEL No. 209508H8S.

DESCRIPTION AS FOLLOWS:

TYPE	BACKUP	MODEL No.	QUANTITY
Medium (8 Bay)	Concrete	209508H8S	2 EACH

FOR LOCATIONS OF THE PROPOSED ATTENUATORS, SEE THE PLAN SHEETS AND HEX FOAM SANDWICH SYSTEM NOTES THIS SHEET.

GENERAL NOTES

ITEM 617 - COMPACTED AGGREGATE, TYPE A, AS PER PLAN

PRIOR TO THE PLACING OF THE COMPACTED AGGREGATE, THE EXISTING GRADED SHOULDER SHALL BE REGRADED AT LOCATIONS AS DIRECTED BY THE ENGINEER TO REMOVE ANY HIGH AREAS ALONG THE ROADWAY OR UNDER PROPOSED GUARDRAIL. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN ITEM 617 AND SHALL INCLUDE ALL LABOR AND EQUIPMENT NEEDED TO REGRADE THE SHOULDERS TO THE SATISFACTION OF THE ENGINEER.

ITEM 605 - SHALLOW UNDERDRAIN, AS PER PLAN

THE CONTRACTOR SHALL EXERCISE CAUTION WHEN INSTALLING THE NEW EDGE DRAIN ADJACENT TO AN EXISTING UNDERDRAIN SO AS TO PREVENT THE UNDERMINING OF ANY EXISTING PAVEMENT. ANY DAMAGED PAVEMENT SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE PROJECT.

ITEM 603 - 4" OR 6" CONDUIT TYPE F, 707.17, NON-PERFORATED, ASTM D-3034 SDR 35, SS 931 OR SS 944

WHERE PROPOSED UNDERDRAINS ARE TO BE CONNECTED TO EXISTING CATCH BASINS, THE EXISTING CONCRETE APRON AROUND THE CATCH BASIN SHALL BE RESTORED TO ITS EXISTING CONDITION UPON COMPLETION OF THE INSTALLATION OF THE PROPOSED 6" CONDUIT. PAYMENT FOR THIS RESTORATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 603.

ITEM 203 - DITCH CLEANOUT

WHERE PLANS CALL FOR OUTLETTING A PROPOSED DRAINAGE SYSTEM INTO AN EXISTING DITCH, THIS ITEM SHALL BE USED AS DIRECTED BY THE ENGINEER TO RE-ESTABLISH POSITIVE DRAINAGE. THE WORK SHALL CONSIST OF RE-ESTABLISHING THE CROSS-SECTION OF THE EXISTING DITCH. SURPLUS OR UNSUITABLE MATERIAL, AS DETERMINED BY THE ENGINEER, SHALL BE DISPOSED OF PER 203.05. EMBANKMENT REQUIRED FOR ERODED CONDITIONS SHALL MEET THE REQUIREMENTS OF 203.07 EXCEPT THAT THE COMPACTION REQUIREMENTS ARE WAIVED. MEASUREMENT OF THE DITCH CLEANOUT SHALL BE THE ACTUAL LINEAR FEET MEASURED ALONG THE CENTERLINE OF THE DITCH. PAYMENT FOR ALL THE ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 203, DITCH CLEANOUT. AN ESTIMATED QUANTITY OF **2500** LIN.FT. IS CARRIED TO THE GENERAL SUMMARY.

ITEM 202 - REMOVAL, MISC.: IMPACT ATTENUATOR REMOVED FOR STORAGE

THIS ITEM SHALL CONSIST OF REMOVAL OF THE IMPACT ATTENUATOR AND STORING IT IN ACCORDANCE WITH THE REQUIREMENTS OF ITEM 202. THE IMPACT ATTENUATOR SHALL BE STORED ON THE CONSTRUCTION SITE, AT A NON-WORK LOCATION, TO BE PICKED UP BY THE CITY OF CINCINNATI.

PAYMENT FOR THIS WORK SHALL BE AT THE UNIT PRICE BID FOR ITEM 202 - REMOVAL, MISC.: IMPACT ATTENUATOR REMOVED FOR STORAGE.

ITEM 202 - FENCE REMOVED, AS PER PLAN

THIS ITEM OF WORK SHALL INCLUDE THE REMOVAL AND DISPOSAL OF EXISTING FENCE FABRIC, POSTS AND ASSEMBLIES INCLUDING ALL CONCRETE ENCASEMENT; AND THE REMOVAL AND DISPOSAL OF ALL TREES, STUMPS, AND BRUSH A MINIMUM OF TWO (2) FEET EACH SIDE OF THE EXISTING FENCE LINE, RIGHT-OF-WAY PERMITTING. ALL TREES, STUMPS, BRUSH, ETC., DESIGNATED FOR REMOVAL SHALL BE CUT OFF FLUSH WITH THE GROUND. IMMEDIATELY AFTER CUTTING, THE STUMPS SHALL BE TREATED WITH "BANVIL CST" OR "TORDON TRU" AS PER THE MANUFACTURER'S RECOMMENDATIONS. ALL LITTER MUST BE REMOVED FROM THE WORK AREA. ALL VEGETATION SHALL BE CUT OR MOWED TO A HEIGHT BETWEEN 3" TO 5". ITEMS FOR DISPOSAL SHALL NOT BE STORED OR STACKED WITHIN 30' OF THE PAVEMENT EDGE AND SHALL BE DISPOSED OF WITHIN FIVE (5) WORKING DAYS AFTER REMOVAL.

IT IS THE INTENT OF THIS PLAN TO REMOVE THE EXISTING FENCE AND INSTALL THE NEW FENCE IN A CONTINUOUS OPERATION. THE MAXIMUM LENGTH OF FENCE REMOVAL SHALL NOT PRECEDE THE REPLACEMENT OPERATION BY MORE THAN TWO (2) DAYS OR 2000 FEET. THE REMOVAL OF ALL FENCE SHALL AT ALL TIMES BE SUBJECT TO THE APPROVAL OF THE ENGINEER. NO FENCE SHALL BE REMOVED UNTIL REPLACEMENT MATERIAL IS ON THE SITE, READY FOR INSTALLATION.

IT IS INTENDED FOR THE NEW FENCE TO BE INSTALLED IN THE SAME LOCATION AS THE EXISTING FENCE. THE CONTRACTOR WILL BE RESPONSIBLE FOR REFERENCING THE EXISTING ANGLE POINTS.

THE CONTRACTOR WILL ALSO BE RESPONSIBLE FOR MAINTAINING SECURITY FOR THOSE PROPERTIES WHICH USE THE RIGHT-OF-WAY FENCE AS A PORTION OF THE SECURITY FENCE WHICH ENCLOSES THEIR PROPERTIES. THIS REQUIREMENT WILL BE STRICTLY ENFORCED.

FAILURE TO COMPLY WITH ALL THE ABOVE REQUIREMENTS SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER SUSPENSION OF THE WORK UNTIL SUCH TIME THAT THE ENGINEER IS ASSURED OF SAID COMPLIANCE. SUSPENSION OF WORK DUE TO THE CONTRACTOR'S FAILURE TO COMPLY WILL NOT ALTER THE COMPLETION SCHEDULES SET FORTH FOR THE PROJECT.

THE COST ASSOCIATED WITH THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 202 FENCE REMOVED, AS PER PLAN.

UTILITY CONFLICTS WITH PROPOSED SHALLOW UNDERDRAIN, AS PER PLAN

AS PER THE NOTE "UNDERGROUND UTILITIES ODOT/GOVERNMENT OWNED AND MAINTAINED, THE CONTRACTOR IS RESPONSIBLE TO LOCATE EXISTING UNDERGROUND UTILITIES. THE PLANS SHOW ITEM 605 SHALLOW UNDERDRAIN, AS PER PLAN RUNNING CONTINUOUS ALONG THE PAVEMENT EDGE. IT WILL BE NECESSARY TO ADJUST THESE UNDERDRAIN RUNS IN THE FIELD TO AVOID CONFLICTS WITH PROPOSED OR EXISTING UTILITY CONDUITS RUNNING TRANSVERSELY BENEATH THE PAVEMENT. ADJUSTMENTS WILL INCLUDE OUTLETTING AN UNDERDRAIN RUN AND BEGINNING AGAIN ON THE OTHER SIDE OF THE CONDUIT, OR OTHER METHOD AS APPROVED BY THE ENGINEER. THE CONTRACTOR IS CAUTIONED NOT TO DAMAGE ANY NEW OR EXISTING ELECTRICAL CONDUITS; ANY DAMAGED CONDUITS SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE. THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED FOR THIS PURPOSE:

ITEM 605 - 6" UNCLASSIFIED PIPE UNDERDRAIN	1450	LIN.FT.
ITEM SPECIAL - PRECAST REINFORCED CONCRETE OUTLET	72	EACH

ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT CLASS C
ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT CLASS FS

CLASS C CONCRETE SHALL BE USED ON THE MAINLINE AND ON THOSE RAMPS ON WHICH TRAFFIC IS NOT BEING MAINTAINED. CLASS FS CONCRETE SHALL BE USED ON THOSE RAMPS ON WHICH TRAFFIC IS BEING MAINTAINED.

IN ORDER TO COMPLY WITH INTERIM COMPLETION DATES SPECIFIED ELSEWHERE IN THESE PLANS, IT MAY BE NECESSARY FOR THE CONTRACTOR TO USE CLASS FS CONCRETE IN PLACES WHERE CLASS C CONCRETE WOULD NORMALLY BE USED. IN THESE INSTANCES, THIS SUBSTITUTION WILL BE MADE AT NO ADDITIONAL COST TO THE PROJECT.

ITEM 255 - FULL DEPTH PAVEMENT REMOVAL AND RIGID REPLACEMENT, MISC.: COMBINATION PAVEMENT REMOVAL, CLASS C REPLACEMENT

SOME OF THE EXISTING PAVEMENT JOINTS ON THIS PROJECT HAVE BEEN PREVIOUSLY REPAIRED USING ASPHALT CONCRETE APPROXIMATELY 3 FEET WIDE. IN ORDER TO REPAIR THESE JOINTS, IT WILL BE NECESSARY TO REMOVE THE ASPHALT CONCRETE, PLUS APPROXIMATELY 1.5 FEET OF EXISTING CONCRETE PAVEMENT ON EACH SIDE OF THE ASPHALT. AFTER REMOVAL OF THE EXISTING ASPHALT AND CONCRETE PAVEMENT, THE JOINTS SHALL BE REPAIRED ACCORDING TO THE DETAIL ON SHEET 20. AN ESTIMATED QUANTITY OF **225** SQUARE YARDS HAS BEEN CARRIED TO THE GENERAL SUMMARY.

TIME EXTENSIONS TO THE CONTRACT

EXTENSIONS OF TIME SHALL NOT BE GRANTED FOR DELAYS IN MATERIAL DELIVERY UNLESS SUCH DELAYS ARE INDUSTRY-WIDE, FOR LABOR STRIKES UNLESS SUCH STRIKES ARE AREA-WIDE AND FOR WEATHER EXCEPT IN A CASE OF TORNADO DAMAGE. THERE SHALL BE NO EXTENSIONS OF TIME GRANTED FOR OTHER WEATHER-RELATED CONDITIONS, INCLUDING BUT NOT LIMITED TO, INCLEMENT WEATHER. THIS CRITERIA SHALL APPLY TO ALL INTERIM COMPLETION DATES, STAGING COMPLETION DATES AND THE FINAL COMPLETION DATE OF THE PROJECT. SEE INTERIM COMPLETION DATES NOTE ON SHEET 29A.

ITEM SPECIAL - HYDRATED LIME

TO ASSIST IN THE TIMELY PREPARATION OF THE SUBGRADE IN FULL DEPTH PAVEMENT REPLACEMENT AND FULL DEPTH SHOULDER REPLACEMENT AREAS, THIS ITEM IS PROVIDED TO BE USED AS DIRECTED BY THE ENGINEER, TO CONTROL MOISTURE CONTENT IN THE PROPOSED SUBGRADE. THIS ITEM OF WORK SHALL INCLUDE FURNISHING, SPREADING, AND DISKING THE LIME MATERIAL INTO THE PROPOSED SUBGRADE TO OBTAIN THE PROPER MOISTURE CONTENT AS PER 203.11. THE RATE OF APPLICATION SHALL BE NO GREATER THAN 2% OF THE MAXIMUM DRY WEIGHT OF THE SUBGRADE MATERIAL. THE SUBGRADE SHALL BE CONSTRUCTED IN ACCORDANCE WITH 203.13 IRRESPECTIVE OF WHETHER OR NOT THE LIME MATERIAL IS USED. USE OF LIME WILL NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH ANY OTHER PROVISIONS OF ITEM 203.

HYDRATED LIME CAN CAUSE SKIN BURNS AND EYE IRRITAION. BOTH CONSTRUCTION AND INSPECTION PERSONNEL SHALL WEAR APPROPRIATE CLOTHING, FULL COVERAGE EYE GOGGLES, AND DUST MASK WHEN HYDRATED LIME IS IN USE. 5.5 M.GAL. OF WATER HAVE BEEN PROVIDED FOR DUST CONTROL ARISING FROM CONSTRUCTION TRAFFIC AND LIME USAGE. THE HYDRATED LIME MAY BE SPRINKLED WITH WATER PRIOR TO DISKING TO SUPPRESS DUST. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTROL NUISANCE DUST PARTICULARLY DUE TO THE CLOSE PROXIMITY OF RESIDENTIAL HOUSING. USAGE OF HYDRATED LIME DURING WINDY DAYS IS TO BE AVOIDED.

IF HYDRATED LIME IS PURCHASED IN BULK AND STORED IN A PILE, THE PILE SHALL BE KEPT COVERED, SHIELDING SAME FROM WIND AND RAIN. CONVEYANCE FROM STOCK PILE TO EMBANKMENT PLACEMENT SITE SHALL BE VIA COVERED TRUCK BED OR BUCKET TO LIMIT DUST. IF LIME IS PROVIDED IN BAGGED FORM, CARE IS TO BE TAKEN WHEN OPENING BAGS ON THE FILL TO AVOID DUST FROM "SHAKING" THE BAGS.

AN ESTIMATED QUANTITY OF **200** TONS OF ITEM SPECIAL - HYDRATED LIME HAS BEEN CARRIED TO THE GENERAL SUMMARY. PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIAL NEEDED TO PERFORM THE ABOVE WORK TO THE SATISFACTION OF THE ENGINEER.

GENERAL NOTES

ITEM SPECIAL - ROADWAY MISC. - TUNNEL CLOSURE

1. GENERAL

THIS WORK INVOLVES PAVEMENT GRINDING, PAVING, INSTALLING PAVEMENT MARKINGS, AND CLEANING THREE TUNNELS LOCATED ON I-71 JUST NORTH OF FT. WASHINGTON WAY IN CINCINNATI, OHIO. THE NORTHBOUND TUNNEL CONTAINS THREE TRAFFIC LANES; THE SOUTHBOUND TUNNEL, TWO TRAFFIC LANES AND ONE PAINTED CURB LANE; AND THE SOUTHBOUND COVINGTON/VINE STREET TUNNEL, ONE TRAFFIC LANE. EACH TUNNEL WILL BE CLOSED TO TRAFFIC TO PERFORM THE PAVEMENT GRINDING, PAVING, INSTALLING PAVEMENT MARKINGS, AND CLEANING.

2. SCOPE

THE CONTRACTOR WILL NOTIFY THE CITY OF CINCINNATI FOURTEEN (14) DAYS IN ADVANCE OF THE CLOSURE OF THE TUNNEL. THE CITY WILL PROVIDE, ERECT, MAINTAIN, AND REMOVE ALL ITEMS OF WORK ASSOCIATED WITH CLOSED I-71 INCLUDING LAW ENFORCEMENT OFFICERS WITH PATROL CARS. THE CONTRACTOR WILL PAY LIQUIDATED DAMAGES IN THE AMOUNT OF THREE THOUSAND DOLLARS PER HOUR ($3,000/HOUR) IF I-71 IS CLOSED BEYOND THE TIMES SPECIFIED UNDER "DESCRIPTION OF WORK."

THE WORK INCLUDES ALL LABOR, MATERIAL, AND EQUIPMENT NECESSARY FOR PAVEMENT GRINDING, PAVING, INSTALLING PAVEMENT MARKINGS, AND CLEANING OF THE TUNNELS. THE STATE RESERVES THE RIGHT TO MODIFY THE NUMBER OF TUNNEL CLOSURES. ALL TUNNEL WORK MUST BE DONE IN COORDINATION WITH THE CLOSURES OF I-71 PROVIDED BY THE CITY OF CINCINNATI. THE CLOSURES WILL BE SCHEDULED BY THE CITY OF CINCINNATI AND THE PROJECT ENGINEER AFTER THE CONTRACTOR HAS GIVEN THE FOURTEEN-DAY (14) ADVANCE NOTICE.

3. EXISTING CONDITIONS AND SITE INSPECTION

IT IS ESSENTIAL THAT ALL PROSPECTIVE BIDDERS BECOME FAMILIAR WITH THE SITE AND THAT THEY REALIZE THE CONDITION OF THE TUNNEL AND WHAT IS REQUIRED BEFORE BIDS ARE SUBMITTED. CARE SHOULD ALSO BE TAKEN WHEN PERFORMING THIS INSPECTION AS THESE TUNNELS ARE ON THE INTERSTATE EXPRESSWAY SYSTEM WITH CLOSE PROXIMITY OF HIGH SPEED TRAFFIC. THE DIVISION OF TRAFFIC ENGINEERING MUST BE NOTIFIED OF THE DATE AND TIME OF SUCH INSPECTION BY CALLING 513.352.6336. THIS IS NECESSARY TO ENSURE THAT POTENTIAL BIDDERS CAN BE GIVEN INSTRUCTION ON THE SAFEST ACCESS TO THE TUNNEL AND BE ADVISED OF ANY SAFETY EQUIPMENT REQUIRED FOR THIS INSPECTION.

4. DESCRIPTION OF WORK

THE CONTRACTOR SHALL NOT ENTER THE EXPRESSWAY UNTIL SPECIFICALLY INSTRUCTED TO DO SO BY THE PROJECT ENGINEER AND THE CITY OF CINCINNATI. THIS WILL GUARANTEE THAT ALL OF THE CITY'S TRAFFIC CONTROL IS IN PLACE AND THAT THE EXPRESSWAY IS OFFICIALLY CLOSED FOR TUNNEL WORK.

PRIOR TO BEGINNING THE CLEANING PROCESS, TRAFFIC ENGINEERING WILL TURN OFF ALL LIGHTING ON THE SIDE OF THE TUNNEL TO BE CLEANED AND LEAVE THE OTHER SIDE OF THE TUNNEL LIGHTING ON TO ILLUMINATE THE WORK AREA. THE CONTRACTOR SHALL PROVIDE ANY ADDITIONAL LIGHTING REQUIRED TO PERFORM THE TUNNEL CLEANING. THE CONTRACTOR SHALL MASK OFF OR BY SOME OTHER MEANS PREVENT WATER FROM ENTERING ANY OF THE ELECTRICAL BOXES. ANY DAMAGES CAUSED BY WATER ENTERING THE ELECTRICAL BOXES WILL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE CITY OF CINCINNATI AT THE CONTRACTOR'S EXPENSE.

CLEANING SHALL BE ACCOMPLISHED IN A THREE-STEP PROCESS USING HIGH-PRESSURE WATER, A SURFACTANT/CLEANING AGENT, MECHANICAL/MANUAL BRUSHING, AND RINSING WITH WATER. THE CONTRACTOR WILL BEGIN THE PROCESS BY APPLYING WATER AT 1,500 PSI AND GRADUALLY INCREASE THE PRESSURE IN THE PRESENCE OF AN OFFICIAL CITY REPRESENTATIVE TO A MAXIMUM OF 3,000 PSI. THE CITY OF CINCINNATI TRAFFIC ENGINEER OR HIS REPRESENTATIVE WILL SELECT THE OPTIMAL PRESSURE NECESSARY TO GIVE THE DEGREE OF CLEANLINESS DESIRED WITHOUT DAMAGING THE TILE OR GROUT JOINTS. THIS PRESSURE WILL THEN BE USED TO PERFORM ALL CLEANING AND RINSING, EXCEPT IN THE AREAS ADJACENT TO THE FLUORESCENT LIGHTS. IN THESE AREAS, THE CONTRACTOR MAY REDUCE THE PRESSURE AND PERFORM LIMITED WORK. ANY DAMAGE TO THE LIGHTING SYSTEM WILL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.

THE CONTRACTOR SHOULD USE A SURFACTANT OR CLEANING AGENT TO FACILITATE CLEANING. ANY SURFACTANT OR CLEANING AGENT USED MAY NOT CONTRIBUTE A HAZARDOUS COMPONENT TO RINSEATE. ADDITIONALLY, THE SURFACTANT OR CLEANING AGENT SHALL NOT PRODUCE EXCESS AMOUNTS OF FOAM WHEN APPLIED OR BRUSHED AND MUST BE COMPLETELY RINSED FROM THE WALLS AND ROADWAY SURFACE TO AVOID A SLIPPERY STREET CONDITION. THE CONTRACTOR MUST SUPPLY AND HAVE ON SITE ANY MSDS SHEETS FOR THE CLEANING AGENT.

AFTER APPLYING THE WATER AND SURFACTANT/CLEANING AGENT, THE CONTRACTOR SHALL BRUSH THE WALLS AND CEILINGS IN ALL AREAS EXCEPT THOSE ADJACENT TO LIGHTING FIXTURES, SNIFFERS, ETC. WHERE ONLY LIMITED HAND WORK IS ALLOWED. (THE HAND WORK WILL BE PERFORMED ONLY AT THE DIRECTION OF THE ENGINEER). THE BRUSHING CAN BE ACCOMPLISHED BY EITHER A MECHANICAL TRUCK MOUNTED ROLLER OR MANUALLY WITH BROOMS. IN EITHER CASE, THE CONTRACTOR SHALL MAKE SURE THAT EQUIPMENT IS AVAILABLE TO REACH THESE AREAS AND IS RESPONSIBLE FOR CHECKING THE EXISTING SITE CONDITIONS FOR CLEARANCE AND ACCESSIBILITY.

ALL BROOM OR ROLLER FIBERS SHALL NOT HAVE A TENDENCY TO INTERWEAVE, MAT, TANGLE, OR SPLINTER. THE FIBERS SHOULD ALSO BE PLASTIC, RESISTANT TO SOLVENTS AND SALT, AND RETAIN A 70 PERCENT BEND RECOVERY. THE BEND RECOVERY SHALL BE MEASURED BY BENDING A SPECIMEN AROUND A 3/8 CABLE OR ROD, HELD FOR 60 SECONDS AND THEN RELEASED. THE PERCENTAGE OF RECOVERY SHALL BE MEASURED 120 SECONDS AFTER THE RELEASE AND THE TEST SHOULD BE CONDUCTED AT 75 DEGREES FAHRENHEIT AND 65 PERCENT RELATIVE HUMIDITY. THE CITY OF CINCINNATI TRAFFIC ENGINEER OR HIS REPRESENTATIVE WILL PERFORM ANY TEST AND GIVE FINAL APPROVAL ON ANY BROOMS AND/OR ROLLER FIBERS TO BE USED.

ONCE THE WALLS ARE BRUSHED, THE CONTRACTOR SHALL MAKE A FINAL RINSING PASS AT THE PRESSURE USED FOR THE APPLICATION OF THE WATER/CLEANING AGENT AND FLUSH THE ENTIRE ROADWAY SURFACE.

THE CONTRACTOR SHALL SUPPLY ALL WATER. IF THE CONTRACTOR OBTAINS WATER FROM A FIRE HYDRANT, HE MUST HAVE A PERMIT ISSUED BY THE CINCINNATI WATER WORKS ON THE JOB AT ALL TIMES.

THE CONTRACTOR IS ALSO RESPONSIBLE FOR CLEANUP OF ANY DEBRIS OF ROADWAY OBSTRUCTIONS CREATED BY HIS CLEANING PROCESS AND SAID CLEANUP MUST BE PERFORMED PRIOR TO THE REOPENING OF THE EXPRESSWAY THAT WILL OCCUR AS STATED IN THE MAINTENANCE OF TRAFFIC NOTES.

GRINDING, PAVING, PAVEMENT MARKING, AND THE TUNNEL CLEANING WILL BE DONE ON SATURDAY NIGHT/SUNDAY MORNING CLOSURES FROM 11 P.M. TO 11 A.M. THESE TIMES DESIGNATE THE TIME THE CITY BEGINS TO SET OUT TRAFFIC CONTROL FOR THE CLOSURE AND THE TIME THE EXPRESSWAY MUST BE OPEN, AND THEREFORE, DO NOT REFLECT THE ACTUAL WORK TIME. SIMULTANEOUS NORTHBOUND AND SOUTHBOUND CLOSURES ARE NOT PERMITTED, BUT BOTH SOUTHBOUND TUNNELS CAN BE CLOSED IN THE SAME WEEKEND.

THE FOLLOWING RESTRICTIONS SHALL APPLY TO THE WORK INVOLVED IN THIS PROJECT AND ANY QUESTIONS REGARDING MAINTENANCE OF TRAFFIC SHOULD BE DIRECTED TO THE PROJECT ENGINEER AND THE CITY OF CINCINNATI TRAFFIC ENGINEER.

BEGINNING AT 11 P.M. ON SATURDAY EVENING, TRAFFIC CONTROL DEVICES SHALL BE PLACED BY THE CITY OF CINCINNATI TO CLOSE I-71 AT THE LYTLE TUNNEL. BY 11 A.M. THE FOLLOWING SUNDAY MORNING, THE ENTIRE EXPRESSWAY SHALL BE OPEN AND AVAILABLE FOR THE MOVEMENT OF TRAFFIC. DRAWINGS FOR THE TRAFFIC CONTROL PROVIDED BY THE CITY OF CINCINNATI WILL BE PROVIDED TO THE CONTRACTOR FOR HIS INFORMATION.

BETWEEN THE HOURS OF 12 A.M. (APPROXIMATE TIME THE EXPRESSWAY WILL BE COMPLETELY CLOSED TO TRAFFIC) AND 10 A.M., WORK WITHIN THE TUNNEL SHALL TAKE PLACE.

BY 10 A.M., THE ENTIRE TUNNEL WORK FOR THE PARTICULAR TASK SHALL BE COMPLETED, ALL VEHICLES AND EQUIPMENT SHALL BE REMOVED FROM THE EXPRESSWAY, AND THE REOPENING OF THE EXPRESSWAY SHALL BEGIN. BY 11 A.M., THE ENTIRE EXPRESSWAY SHALL BE OPEN AND AVAILABLE FOR THE MOVEMENT OF TRAFFIC.

ARRANGEMENTS FOR OFF-DUTY CITY OF CINCINNATI POLICE OFFICERS FOR CLOSURE OF THE EXPRESSWAY WILL BE THE RESPONSIBILITY OF THE CITY TRAFFIC ENGINEER OR HIS REPRESENTATIVE. THE LOCATIONS OF THE POLICE OFFICERS ARE FIXED TRAFFIC POSTS, AND THESE OFFICERS CANNOT BE MOVED. IF THE CONTRACTOR REQUIRED ADDITIONAL OFFICERS, THEY WILL BE AT HIS EXPENSE.

POLICE OFFICERS ARE TO BE USED TO PROHIBIT ALL VEHICLES FROM ENTERING THE EXPRESSWAY DURING THE HOURS OF THE CLOSURE. IN ADDITION, ONE SUPERVISOR WILL BE REQUIRED TO MONITOR THE POLICE OFFICERS DURING THE HOURS OF CLOSURE. THE OFFICERS ARE TO BE PLACED AT THE FOLLOWING LOCATIONS:

- RACE STREET ENTRANCE RAMP TO NORTHBOUND I-71.
- WALNUT STREET ENTRANCE RAMP TO NORTHBOUND I-71.
- MAIN STREET ENTRANCE RAMP TO NORTHBOUND I-71.
- EASTBOUND FT. WASHINGTON WAY AT THE MAIN STREET EXIT RAMP (MAIN CLOSURE FOR NORTHBOUND TRAFFIC).
- SOUTHBOUND I-71 AT THE READING ROAD/GILBERT AVENUE EXIT RAMP (MAIN CLOSURE FOR SOUTHBOUND TRAFFIC).

AS TRAFFIC CONTROL DEVICES ARE PLACED TO CLOSE THE EXPRESSWAY, THREE POLICE OFFICERS WITH CRUISERS FOR EACH DIRECTION WILL BE USED TO BLOCK THE ENTIRE EXPRESSWAY.

THE CITY OF CINCINNATI IS TO PROVIDE AND BE RESPONSIBLE FOR POLICE OFFICERS. PAYMENT INCLUDED WITH THIS BID ITEM.

INCLEMENT WEATHER. AT 6 P.M. ON SATURDAY EVENING OF THE SCHEDULED EXPRESSWAY CLOSURE, THE PROJECT ENGINEER IN CONJUNCTION WITH THE CITY OF CINCINNATI WILL DETERMINE, BASED ON PROPOSED WEATHER FORECAST, IF THE EXPRESSWAY WILL BE CLOSED. IF THE FORECAST IS FOR INCLEMENT WEATHER, THE CLOSURE OF THE EXPRESSWAY WILL BE POSTPONED, NORMALLY UNTIL THE FOLLOWING WEEKEND. THE PROJECT ENGINEER WILL PROVIDE DATES FOR CONSIDERATION FOR THE CLOSURE WORK TO AVOID ANY CONFLICT WITH SPECIAL EVENTS AND GIVE AT LEAST TWO WEEKS PRIOR NOTICE TO THE CONTRACTOR.

THE PROJECT ENGINEER WILL NOTIFY THE MAIN CONTACT PERSON FOR THE CONTRACTOR AT 6 P.M. OF THE STATUS OF THE CLOSURE.

5. PAYMENT

PROSPECTIVE BIDDERS SHALL CONTACT THE CITY OF CINCINNATI TRAFFIC ENGINEER REGARDING THE COSTS FOR EACH CLOSURE OF I-71 AND INCLUDE THIS COST IN THEIR BID PROPOSALS. A SEPARATE CONTRACT BETWEEN THE CITY OF CINCINNATI AND THE CONTRACTOR WILL BE NECESSARY TO COMPENSATE THE CITY FOR THE COSTS OF THE CLOSURES. IT IS ANTICIPATED THAT NINE (9) CLOSURES WILL BE REQUIRED IN ORDER TO PERFORM THE PAVEMENT GRINDING, PAVING, INSTALLING PAVEMENT MARKINGS, AND CLEANING WITHIN THE TUNNEL. PAYMENT FOR THIS WORK SHALL BE ON A PER EACH CLOSURE UNDER ITEM SPECIAL - ROADWAY MISC. - TUNNEL CLOSURE AND HAS BEEN CARRIED TO THE GENERAL SUMMARY.

COOPERATION BETWEEN CONTRACTORS

THE CONTRACTOR SHALL COORDINATE THE WORK ACTIVITIES THAT WILL BE PERFORMED CONCURRENTLY UNDER A SEPARATE CONTRACT ON THE SAME SECTION OF I-71, BETWEEN THIS PROJECT AND THE REGIONAL TRAFFIC MANAGEMENT SYSTEM (RTMS). THE CONTRACTOR SHALL PAY CAREFUR ATTENTION TO 105.07 OF THE SPECIFICATIONS TO INSURE THAT CONFLICTING LANE CLOSURES, ECT. DO NOT OCCUR.

BARRIER WALL CONSTRUCTION ON I-75

SHEETS 135A-135J ARE FOR THE CONSTRUCTION OF TWO 50' BARRIER WALLS ON RAMP R AND RAMP M OF SOUTHBOUND I-75. A VANDAL PROTECTION FENCE WILL BE INSTALLED ON TOP OF THE WALLS FOR SAFETY PURPOSES. THE CONSTRUCTION OF THE WALL AND FENCE SHALL BE PERFORMED IN THE INITIAL STAGE OF CONSTRUCTION. FAILURE TO DO SO SHALL LEAVE THE CONTRACTOR OPEN TO LIQUIDATED DAMAGES AS PER 108.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

PROPOSED CHAIN LINK FENCE

DUE TO SOME DEVELOPMENT EXPECTED TO TAKE PLACE IN THE NEAR FUTURE ON THE LEFT SIDE OF I-71 BETWEEN KENNEDY RD. & RED BANK RD.. THE CONTRACTOR WILL BE REQUIRED TO CONSTRUCT THE PROPOSED CHAIN LINK FENCE BETWEEN STA. 436+00 AND 468+00 DURING THE INTIAL STAGES OF THE PROJECT. FAILURE TO DO SO, SHALL SUBJECT THE CONTRACTOR TO LIQUIDATED DAMAGES IN ACCORDANCE WITH THE CONSIRUCTION AND MATERIAL SPECIFICATIONS.

CONDUIT SYSTEM - GENERAL

GENERAL
ALL CONDUIT, PULL BOXES AND TRENCHING SHALL BE INSTALLED PER SECTION 625 IN THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

ALL PULL BOXES SHALL BE CONSTRUCTED OF CONCRETE OR REINFORCED HEAVY WEAVE FIBERGLASS REINFORCED CONCRETE OR AND APPROVED EQUAL AND CONFORM TO PARAGRAPHS 713.08 AND 713.081 IN THE CONSTRUCTION AND MATERIALS SPECIFICATIONS. ALL JUNCTION BOXES AND PULLBOXES SHALL BE GROUNDED PER SECTION 625.

ALL CONDUIT ATTACHED TO UNDERSIDE OF A BRIDGE STRUCTURE SHALL BE BULLET RESISTANT FIBERGLASS CONDUIT. ALL CONDUIT FOR ROAD BORES SHALL BE PVC SCHEDULE 40 CONDUIT. ALL OTHER CONDUIT SHALL BE CONCRETE ENCASED PVC TYPE C CONDUIT.

ALL CONDUIT WILL BE OF THE SIZE AND TYPE AS INDICATED ON THE PLANS. ALL 4 INCH CONDUIT, EXCEPT THAT INDICATED AS "BB" ON THE PLANS, SHALL BE A NOMINAL 4 INCH CONDUIT AND SHALL CONTAIN A FACTORY ASSEMBLED MULTICELLED CONDUIT SYSTEM CONSISTING OF FOUR 1-1/4 INCH INNERDUCTS FOR THE COMPARTMENTALIZATION OF CABLES. THE 4" CONDUIT INDICATED AS "BB" ON THE PLANS SHALL CONTAIN NO INNERDUCT.

THE CONDUIT SHALL BE DESIGNED TO PROVIDE FOR CONNECTING (COUPLING) ONE COMPLETE SECTION OF CONDUIT ASSEMBLY TO THE NEXT SECTION BY USE OF A BELL JOINT ON ONE END OF THE OUTER CONDUIT AND MULTIPLE SEALS ON EACH OF THE FOUR INNERDUCTS. THE CONDUIT SECTIONS SHALL BE DESIGNED TO ASSEMBLE SPIGOT INTO THE BELL END.

THE COUPLING SHALL BE FACTORY ASSEMBLED IN THE BELL END OF THE OUTER CONDUIT, AND SHALL BE SUPPLIED WITH LEAD-INS TO FACILITATE ASSEMBLY. THE COUPLINGS SHALL BE DESIGNED AND FACTORY CERTIFIED TO HANDLE NORMAL EXPANSION AND CONTRACTIONS.

SPECIAL TERMINATION KITS SHALL BE PROVIDED BY THE CONDUIT MANUFACTURER FOR TERMINATING THE CONDUIT IN PULL BOXES, JUNCTION BOXES AND THE LIKE. THE KITS SHALL PROVIDE FOR AN AIR AND WATER TIGHT SEAL OF CONDUIT TO STRUCTURE WALL.

ON BORE INSTALLATIONS, THE OUTER CONDUIT AND INNERDUCT IS TO BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS. THE CONTRACTOR IS TO MAINTAIN A MINIMUM OF 30 INCHES BELOW SURFACE OF ROADWAY AT ALL POINTS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE DEPTH OF ALL DRAINS, SEWERS, ELECTRIC LINES AND THE LIKE BEFORE BORING.

ALL BURIED CONDUIT SHALL BE INSTALLED WITH A #14AWG THWN OR XHHW WIRE CONDUCTOR. THE WIRE CONDUCTOR SHALL BE INSTALLED INTO CABLE VAULTS AND PULL BOXES AT BOTH ENDS OF TRENCH.

THE INNERDUCT ASSEMBLY SHALL CONSIST OF FOUR HIGH DENSITY POLYETHYLENE (HDPE) WITH A RIBBED I.D. OR APPROVED EQUIVALENT, COLOR CODED DUCTS. EACH DUCT SHALL BE A NOMINAL 1-1/4" DIAMETER WITH AN INSIDE DIAMETER OF 1.194 INCHES AND MINIMUM WALL THICKNESS OF 0.063 INCHES. THE FOUR DUCTS SHALL BE PREASSEMBLED IN THE FACTORY AND INSERTED INTO THE OUTER CONDUIT.

THE FACTORY INSTALLED INNER DUCTS SHALL BE FABRICATED OF HDPE OR APPROVED EQUIVALENT WITH A FRICTION COEFFICIENT OF .090 OR BETTER. NO EXTERNAL LUBRICANT SHALL BE USED TO OBTAIN THE MINIMUM COEFFICIENT OF FRICTION.

INNERDUCTS SHALL BE DISTINGUISHABLE FROM EACH OTHER BY COLOR CODING, AS INDICATED IN THE CONTRACT DOCUMENTS. THE ENTIRE DUCT SHALL BE COLORED BY INDUSTRY STANDARDS COLORING ADDITIVE TO THE DUCT MATERIAL, NOT BY AN EXTERNAL APPLIED COLORING. THE INNERDUCT COLORING WILL BE THE SAME FOR THE ENTIRE PROJECT REGARDLESS OF OUTERDUCT MATERIAL AND WILL BE USED AS FOLLOWS:

RED OR ORANGE - ELECTRIC CABLE
BLUE OR GREEN - FIBER OPTIC OR TELEPHONE
WHITE - COMMUNICATION CABLE OR LEADIN CABLE FROM FIELD DEVICE TO CONTROLLER CABINET
GRAY - SPARE OR AS REQUIRED

WHERE A SECOND CONDUIT IS REQUIRED AS INDICATED ON THE PLANS, THE INNERDUCT SHALL BE ONE GRAY AND THREE WHITE.

THE THREE 1-1/4" INNERDUCT TO BE INSTALLED IN EXISTING CONDUIT SHALL BE OF THE SAME COLORS AS ABOVE, EXCLUDING THE GRAY, AND BE INSTALLED WITH AIR AND WATERTIGHT END TERMINATORS AT ALL PULL BOXES. WHERE INNERDUCT IS REQUIRED IN BOTH EXISTING CONDUIT AS INDICATED ON THE PLANS, THE THREE 1-1/4" INNERDUCT IN THE SECOND CONDUIT SHALL BE WHITE IN COLOR AND INSTALLED WITH AIR AND WATERTIGHT AND TERMINATORS AT ALL PULLBOXES, JUNCTION BOXES AND THE LIKE.

THE OUTERDUCT SHALL HAVE A LONGITUDINAL PRINT LINE THAT DENOTES, "INSTALL THIS SIDE UP", TO ALLOW FOR THE PROPER ALIGNMENT OF THE INNERDUCTS. THE OUTERDUCT SHALL BE MARKED WITH DATA TO TRACE THE PLANT LOCATION, DATE, SHIFT AND MACHINE USED IN THE MANUFACTURING PROCESS.

EACH COMPLETE CONDUIT SECTION SHALL BE IDENTICALLY KEYED TO PROVIDE FOR PROPER ALIGNMENT OF THE INNERDUCT. THE SPIGOT END OF THE CONDUIT SECTION SHALL HAVE A LOCATOR TO PROVIDE A REFERENCE POINT FOR PROPER ALIGNMENT DURING CONNECTION.

THE CONDUIT SHALL BE PACKAGED FOR SHIPMENT AT THE FACTORY. THE CONDUIT SHALL BE ASSEMBLED INTO MANAGEABLE BUNDLES.

THE COMPLETE CONDUIT SECTIONS INCLUDING OUTER CONDUITS, INNERDUCTS, AND ALL SPACERS AND CONNECTION PARTS SHALL BE CERTIFIED BY THE MANUFACTURE AS COMPLETE AND FREE OF DEFECTS INCLUDING NON-CIRCULARITY, FOREIGN INCLUSIONS, ETC. IT SHALL BE NOMINALLY UNIFORM (AS COMMERCIALLY PRACTICAL) IN COLOR, DENSITY, AND PHYSICAL PROPERTIES. IT SHALL BE STRAIGHT AND THE ENDS SHALL BE CUT SQUARE TO THE INSIDE DIAMETER.

THE CONSTRUCTION AND TESTING OF THE CONDUIT SHALL COMPLY WITH ALL APPLICABLE INTERNATIONAL TELEGRAPH AND TELEPHONE CONSULTIVE COMMITTEE (CCITT), ANSI, ASTM STANDARDS, NATIONAL AND STATE ELECTRIC CODES, AND FDDI. SPECIFICATIONS AND SHALL BE UNDERWRITTEN LABORATORY LISTED.

FITTINGS

A COMPLETE LINE OF FITTINGS, ADAPTORS, AND BENDS (SWEEPS) SHALL BE PROVIDED AND SHALL BE MANUFACTURED FROM THE SAME MATERIALS AND MANUFACTURING PROCESS AS THE CONDUIT.

COMPLETE CONDUIT FLEXIBLE BEND SECTIONS, INCLUDING BOTH FLEXIBLE STEEL AND PVC OUTER CONDUIT AND FLEXIBLE INNERDUCT, SHALL BE MANUFACTURED, AND SHALL BE COMPLETE WITH BELL AND SPIGOT. ALL BENDING RADIUS SHALL BE FOUR(4) FEET OR GREATER.

FLEXIBLE BENDS (SWEEPS) ARE TO BE USED WHERE CHANGES IN ALIGNMENT DO NOT PERMIT USE OF STRAIGHT RIGID SECTIONS. THE FLEXIBLE BENDS ARE NOT TO BE CUT. ADJUST PULL BOXES AND THE LIKE TO FIT. FIELD BENDS ARE NOT TO BE MADE ON THE MULT-DUCT CONDUIT.

CONDUIT COUPLING SHALL BE PROVIDED TO COUPLE THE FOLLOWING CONDUIT COMBINATIONS:

1) HDPE TO HDPE OR APPROVED EQUIVALENT INNER CONDUIT
2) PVC TO PVC OUTER CONDUIT
3) PVC TO GALVANIZED STEEL OUTER CONDUIT
4) PVC TO FIBERGLASS OUTER CONDUIT
5) FIBERGLASS TO GALVANIZED STEEL OUTER CONDUIT

ULTRAVIOLET PROTECTION

CONDUIT AND FITTINGS SHALL BE SUPPLIED WITH AN ULTRAVIOLET INHIBITOR.

CABLE PULLING

PULL ROPES ARE TO BE PROVIDED IN ALL INNERDUCTS.

ITEM 625 - CONDUIT, CONCRETE ENCASED, AS PER PLAN 4"

PROTECTIVE OUTERDUCT FOR BORING SHALL BE 4", SCHEDULE 40, PVC-DUCT WITH EXTENDED MINIMUM 5" INTEGRAL BELL END AND CONFORM TO NEMA-TC2. PROTECTIVE OUTERDUCT FOR BURIAL SHALL BE 4", TYPE C PVC-DUCT WITH EXTENDED MINIMUM 5" INTEGRAL BELL END AND CONFORM TO NEMA-TC10.

ALL BEND RADII SHALL BE FOUR(4) FEET OR GREATER.

MARKING

THE OUTERDUCT SHALL HAVE A LONGITUDINAL RUNNING PRINT LINE THAT DENOTES "INSTALL THIS SIDE UP" SO AS TO ASSURE PROPER INNERDUCT ALIGNMENT.

THE OUTERDUCT SHALL BE MARKED WITH DATA TRACEABLE TO PLANT LOCATION, DATE, SHIFT, AND MACHINE OF MANUFACTURE.

THE OUTERDUCT SHALL HAVE A CIRCUMFERENTIAL RING ON THE SPIGOT END OR DUCT TO PROVIDE A REFERENCE POINT FOR ENSURING TO PROPER INSERTION DEPTH WHEN CONNECTION CONDUIT ENDS.

GASKETS

THERE SHALL BE PROVIDED A PRIMARY COUPLING BODY THAT IS MANUFACTURED AS A MOLDED ONE PIECE THERMOPLASTIC RUBBER OR APPROVED EQUIVALENT AND INCORPORATES INTEGRAL MOLDED SEALING DEVICES TO FACILITATE FIELD ASSEMBLY AND PREVENT WATER AND FOREIGN MATERIAL LEAKAGE FROM OUTSIDE THE MULT-DUCT SYSTEM AND TO PREVENT AIR LEAKAGE FROM INSIDE THE INNERDUCTS. NO LUBRICANT SHALL BE REQUIRED FOR FIELD ASSEMBLY OF THIS PRODUCT AND ASSEMBLY SHALL BE ACCOMPLISHED SOLELY BY HAND WITHOUT USE OF SPECIAL TOOLS.

THE COUPLING BODY SHALL HAVE A PLURALITY OF BORES CONTAINING PRINCIPAL SEALS WHICH ARE MOLDED AS AN INTEGRAL PART OF THE COUPLING BODY.

THE COUPLING BODY WITH ITS SEALING MEMBER(S) MUST SEAL THE OUTER WALLS OF THE INNERDUCTS AND THE INNER WALL OF THE OUTERDUCT PROVIDING AN AIRTIGHT SEAL FROM THE OUTSIDE OF THE OUTERDUCT BY MEANS OF THE FOLLOWING TESTS OR APPROVED EQUIVALENT.

THE EXTERNAL 4" CONDUIT JOINT SHALL BE TESTED FOR WATER TIGHTNESS USING THE FOLLOWING PROCEDURE:

NOTE: FOR ALL TEST PROCEDURES, THE TEST CONDITIONS SHALL BE 73 DEGREES FAHRENHEIT +/- 3 DEGREES WITH A RELATIVE HUMIDITY OF 50 PERCENT UNLESS OTHERWISE SPECIFIED.

TWO 18" TO 36" LENGTHS OF DUCT (ONE FACTORY BELL END AND ONE FACTORY SPIGOT END) ARE TO BE JOINED WITHOUT THE APPLICTION OF CEMENT OR LUBRICANT AND WITHOUT THE USE OF FORCE OTHER THAN REQUIRED BY HAND. THE CENTER OF THE SECTION OF THE CONDUIT CONTAINING THE JOINT SHALL BE ENCLOSED WITHIN A HOUSING SUITABLE FOR CONTAINING WATER AT OR ABOVE A POSITIVE PRESSURE OF 20 P.S.I.G. OR A WATER COLUMN OF 12 FEET. THE ENCLOSURE IS TO BE SUFFICIENTLY FILLED WITH WATER TO COMPLETELY COVER THE CONDUIT JOINT WITHIN. A REGULATED AIR PRESSURE OF 20 P.S.I.G. OR A WATER COLUMN OF 12 FEET ABOVE THE JOINT IS TO BE APPLIED TO THE INTERIOR OF THE ENCLOSURE BY WAY OF A SEALED CONNECTION. THE ENDS OF THE CONDUIT SHALL PROTRUDE THROUGH THE SEALED EXTERIOR OF THE HOUSING IN ORDER TO FACILITATE INSPECTION FOR LEAKAGE OF WATER TO THE INSIDE. THE CONDUIT ASSEMBLY SHALL SHOW NO SIGNS OF LEAKAGE FOR A PERIOD OF 24 HOURS. IF LEAKAGE HAS NOT OCCURRED AT THE END OF THE INITIAL 24 HOUR TEST PERIOD, INCREASE THE PRESSURE 3 P.S.I.G. FOR ADDITIONAL 24 HOUR PERIODS UNTIL LEAKAGE OCCURS.

THE GASKET OR SEALING MEMBER(S) MUST BE POSITIONED SUCH TO ALLOW A MINIMUM INNERDUCT MOVEMENT OF 4.25" WITHOUT DISENGAGING INNERDUCT SEALING MEANS.

INNERDUCT SHALL BE TESTED FOR AIRTIGHTNESS SEQUENTIALLY USING THE FOLLOWING PROCEDURE OR AN APPROVED EQUIVALENT.

TWO 18" TO 36" LENGTHS OF DUCT (ONE FACTORY BELL END AND ONE FACTORY SPIGOT END) ARE TO BE FULLY JOINED WITHOUT THE APPLICATION OF CEMENT OR LUBRICANT AND WITHOUT THE USE OF FORCE OTHER THAN REQUIRED BY HAND. ONE END OF AN INNER CONDUIT IS TO BE SEALED WITH A PLUG. THE OPPOSITE END OF THE SAME INNER CONDUIT IS TO BE FITTED WITH A PLUG AND HOSE ASSEMBLY FED BY AIR SUPPLY OF 100 P.S.I.G. BEFORE APPLYING AIR PRESSURE, THE INNERDUCT AND PLUGS SHALL BE PROPERLY SECURED IN PLACE TO PREVENT THEM FROM BEING EJECTED BY THE AIR PRESSURE, BUT NOT IN SUCH A FASHION AS TO COMPRESS THE JOINT. ONCE THE APPLICATION OF 100 P.S.I.G. OF AIR PRESSURE IS MADE TO THE CONDUIT, THE TIME REQUIRED TO REACH A STABILIZED CONSTANT PRESSURE OF 15 P.S.I.G. SHALL BE NO LESS THAN 10 MINUTES. THE COUPLING BODY SHALL ALSO SEAL THE INNERDUCT SO THAT AFTER THE APPLICATION OF THE 100 P.S.I.G. TO AN INNERDUCT, THE INNERDUCT SHALL BE CAPABLE OF MAINTAINING A MINIMUM OF 15 P.S.I.G. FOR 24 HOURS.

THE COUPLING BODY SHALL ALSO BE CAPABLE OF RELIEVING EXTERNAL PRESSURE TO ELIMINATE THE POSSIBILITY OF INNERDUCT COLLAPSE DUE TO PRESSURE BUILDUP BETWEEN THE INNER AND OUTERDUCTS. THIS PRESSURE BUILDUP MAY POTENTIALLY OCCUR DURING PNEUMATIC RODDING DUE TO A GASKET OR DUCT FAILURE. THE COUPLING BODY SHALL ALSO BE TESTED FOR OUTWARD PRESSURE RELIEF USING THE FOLLOWING PROCEDURE:

TWO 18" TO 36" LENGTHS OF DUCT (BOTH CONTAINING A FACTORY BELL END AND A FACTORY SPIGOT END) ARE TO BE JOINED WITHOUT THE APPLICATION OF CEMENT OR LUBRICANT AND WITHOUT THE USE OF FORCE OTHER THAN REQUIRED BY HAND. A REGULATED AIR SUPPLY OF 40 P.S.I.G. SHALL BE APPLIED THROUGH A THREADED OPENING IN THE OUTERDUCT TO BE APPLIED THROUGH A THREADED OPENING IN THE OUTERDUCT TO BE AIR SPACE CONFINED BETWEEN THE INNER AND OUTERDUCTS AND BETWEEN THE COUPLING ASSEMBLIES AT EITHER END. BEFORE APPLYING AIR PRESSURE, THE ASSEMBLY TO BE TESTED SHALL BE PROPERLY SECURED IN PLACE TO PREVENT THEM FROM BEING EJECTED APART BY THE AIR PRESSURE, BUT NOT IN SUCH A FASHION AS TO COMPRESS THE JOINT. THE SEALS TESTED SHALL BE CAPABLE OF FREELY RELIEVING THE PRESSURE APPLIED AT A POINT NOT GREATER THAN 10 P.S.I.G.

THE GASKET OR SEALING MEMBER(S) SHALL BE AN ANTI-REVERSING DESIGN IN SUCH THAT THAT THE LENGTHS OF CONDUIT STAY JOINED TOGETHER WITHOUT NEED FOR SOLVENT CEMENT.

FIELD CONNECTION END OF THE INTERNAL COUPLING BODY SHALL INCORPORATE SHAPED TARGET AREAS TO ACCOMMODATE SELF ALIGNMENT OF INNERDUCTS WITH BORE OPENINGS DURING FIELD ASSEMBLY.

THE COUPLING BODY SHALL HAVE ONE OF THE BORE OPENINGS ON THE FIELD ASSEMBLY SIDE UNIQUELY IDENTIFIED TO FACILITATE PROPER CONTINUOUS INNERDUCT ALIGNMENT DURING FIELD ASSEMBLY.

ASSEMBLY

THE CONDUIT SYSTEM SHALL BE ASSEMBLED IN THE FIELD PER THE MANUFACTURERS INSTRUCTIONS.

FITTINGS

THE CONDUIT SYSTEM SHALL BE A COMPLETE SYSTEM WITH ALL OF THE FOLLOWING FITTINGS OR AS REQUIRED BY THE MANUFACTURE:

- COUPLING KITS
- PULL BOX TERMINATOR KITS
- LUBRICATION FITTINGS
- REPAIR KITS
- INSTALLATION ACCESSORIES

BENDS

THE CONDUIT SYSTEM SHALL OFFER A COMPLETE LINE OF FIXED AND FLEXIBLE SWEEPS WITH SYSTEM COMPATIBLE BELL AND SPIGOT ENDS.

FIXED AND FLEXIBLE 4-WAY BENDS SHALL BE SUPPLIED WITH HIGH TEMPERATURE BURN-THROUGH RESISTANT INNERDUCTS OF THE SAME MATERIALS AS THE STRAIGHT SECTIONS OF CONDUIT AND USING THE SAME COLOR CODING.

FIXED BENDS

THE CONDUIT SYSTEM SHALL OFFER THE FOLLOWING STANDARD FIXED BENDS:

DEGREE RADIUS	BEND(DEGREES)	SYSTEM
4'	11-1/4	
6'	22-1/2	4-WAY
9'	45	
	90	

FLEXIBLE BEND

THE FLEXIBLE BEND SHALL BE SUPPLIED IN TWO LENGTHS TO MEET FIELD REQUIREMENTS.

LENGTH	RADIUS(DEGREES)		DEGREE BEND SYSTEM
126"	MIN. 4 FT.	0-90	4-WAY
6 FT.	0-70		
9 FT.	0-55		
192"	MIN. 4 FT.	0-90	4-WAY
6 FT.	0-90		
9 FT.	0-90		

CAUTION: FLEXIBLE BENDS SHALL NOT BE BENT BEYOND THE MINIMUM 4 FOOT RADIUS.

INNERDUCT

THE INNERDUCTS CONTAINED WITHIN THE PVC OUTERDUCT SHALL BE MANUFACTURED FROM HDPE OR APPROVED EQUIVALENT. THE INNERDUCT SYSTEM SHALL BE FACTORY INSTALLED AND SHALL BE DESIGNED SO THAT EXPANSION AND CONTRACTION OF THE INNERDUCTS TAKES PLACE IN THE COUPLING BODY.

DYNAMIC CO-EFFICIENT OF FRICTION (COF) TESTED IN ACCORDANCE WITH BELLCORE TA-NWT-000356 PROCEDURE SHALL BE:

CABLE TYPE	C.O.F.
F/O HDPE JACKET	.027

DIMENSIONS-INNERDUCT

CODING	NOMINAL SIZE	MAXIMUM I.D.	MINIMUM WALL
4-WAY 4-COLOR	1-1/4"	1.194	0.063

COUPLING BODY

THE COUPLING BODY SHALL BE FACTORY ASSEMBLED IN THE BELL END OF THE OUTERDUCT AND SHALL BE MANUFACTURED FROM A HIGH IMPACT ENGINEERING THERMOPLASTIC. THE COUPLING BODY FACE SHALL BE SUPPLIED WITH LEAD-INS TO FACILITATE ASSEMBLY.

MARKING

THE COUPLING BODY SHALL HAVE EACH CONDUIT ENTRANCE IDENTIFIED WITH A REFERENCE POINT FOR PROPER ALIGNMENT AND CONTINUITY OF THE COLOR CODED INNERDUCT.

COUPLING BODY FACE SHALL BE SUPPLIED WITH LEADINS TO FACILITATE ASSEMBLY.

PAYMENT

THIS ITEM SHALL INCLUDE ALL MATERIAL, TOOLS AND LABOR TO COMPLETE THE JOB TO THE SATISFACTION OF THE PROJECT ENGINEER.
PAYMENT SHALL BE MADE AT THE UNIT BID PRICE PER LIN.FT., ITEM 625 - CONDUIT, CONCRETE ENCASED, AS PER PLAN, 4"
THE CONDUIT SHALL BE PURCHASED FROM ONE OF THE FOLLOWING COMPANIES OR AN APPROVED EQUAL:

VIKIMATIC SALES, INC. 600 PLUM CREEK DR. P.O.BOX 629 WADSWORTH, OHIO 44281 1-800-345-8454	HASSELBACH & ASSOCIATES, INC. 431 W. SEYMOUR AVE. CINCINNATI, OHIO 45216 1-800-582-4084	THE GEORGE-INGRAHAM CORP. 4605 STONEGATE INDUSTRIAL BLVD. STONE MOUNTAIN, GA 30086-1869 1-800-631-6283

ITEM 625 - BRIDGE MOUNTED CONDUIT, AS PER PLAN, 4"

OUTERDUCT

THE CONDUIT SHALL BE FILAMENT WOUND FIBERGLASS REINFORCED EPOXY AS MANUFACTURED TO COMPLY WITH THE SPECIFICATIONS OUTLINED IN NEMA TC-14 AS NOTED. THE CONDUIT SHALL BE FREE FROM DEFECTS INCLUDING DELAMINATION, FOREIGN INCLUSIONS, ETC. IT SHALL BE NOMINALLY UNIFORM (AS COMMERCIALLY PRACTICAL) IN COLOR DENSITY, AND PHYSICAL PROPERTIES. IT SHALL BE STRAIGHT AND THE ENDS SHALL BE CUT SQUARE TO THE INSIDE DIAMETER.

DIMENSIONS

BULLET-RESISTANT FIBERGLASS CONDUIT SHALL BE SUPPLIED IN:

OUTSIDE DIAMETER	4.50"
INSIDE DIAMETER	4.00"
NOMINAL WALL THICKNESS	0.250"

MARKING

THE OUTERDUCT SHALL BE MARKED WITH DATA TRACEABLE TO PLANT LOCATION, DATE SHIFT, AND MACHINE OF MANUFACTURE.

THE OUTERDUCT SHALL HAVE CIRCUMFERENTIAL RING ON THE SPIGOT END OF THE DUCT TO PROVIDE A REFERENCE POINT FOR ENSURING THE PROPER INSERTION DEPTH WHEN CONNECTING CONDUIT ENDS AND FOR PROPER ALIGNMENT AND CONTINUITY OF THE COLOR CODED INTERDUCT.

THERE SHALL BE PROVIDED A PRIMARY COUPLING BODY THAT IS MANUFACTURED AS A MOLDED ONE PIECE THERMOPLASTIC RUBBER OR APPROVED EQUIVALENT AND INCORPORATES INTEGRAL MOLDED SEALING DEVICES TO FACILITATE FIELD ASSEMBLY AND PREVENT WATER AND FOREIGN MATERIAL LEAKAGE FROM OUTSIDE THE MULTI-DUCT SYSTEM AND TO PREVENT AIR LEAKAGE FROM INSIDE THE INNERDUCTS. NO LUBRICANT SHALL BE REQUIRED FOR FIELD ASSEMBLY OF THIS PRODUCT AND ASSEMBLY SHALL BE ACCOMPLISHED SOLELY BY HAND WITHOUT USE OF SPECIAL TOOLS.

THE COUPLING BODY SHALL HAVE A PLURALITY OF BORES CONTAINING PRINCIPAL SEALS WHICH ARE MOLDED AS AN INTEGRAL PART OF THE COUPLING BODY. THE COUPLING BODY.

THE COUPLING BODY WITH ITS SEALING MEMBER(S) MUST SEAL THE OUTER WALLS OF THE INNERDUCT AND THE INNER WALL OF THE OUTERDUCT PROVIDING AN AIRTIGHT SEAL FROM THE OUTSIDE OF THE OUTERDUCT BY MEANS OF THE FOLLOWING TESTS OR APPROACH EQUIVALENT.

THE EXTERNAL 4" CONDUIT JOINT SHALL BE TESTED FOR WATER TIGHTNESS USING THE FOLLOWING PROCEDURE:

NOTE: FOR ALL TEST PROCEDURES, THE TEST CONDITIONS SHALL BE 73 DEGREES FAHRENHEIT +/-3 DEGREES WITH A RELATIVE HUMIDITY OF 50 PERCENT UNLESS OTHERWISE SPECIFIED.

TWO 18" TO 36" LENGTHS OF DUCT (ONE FACTORY BELL END AND ONE FACTORY SPIGOT END) ARE TO BE JOINED WITHOUT THE USE OF CEMENT OR LUBRICANT AND WITHOUT THE USE OF FORCE OTHER THAN REQUIRED BY HAND. THE CENTER OF THE SECTION OF THE CONDUIT CONTAINING THE JOINT SHALL BE ENCLOSED WITHIN A HOUSING SUITABLE FOR CONTAINING WATER AT OR ABOVE A POSITIVE PRESSURE OF 20 P.S.I.G. OR A WATER COLUMN OF 12 FEET. THE ENCLOSURE IS TO BE SUFFICIENTLY FILLED WITH WATER TO COMPLETELY COVER THE CONDUIT JOINT WITHIN. A REGULATED AIR PRESSURE OF 20 P.S.I.G. OR A WATER COLUMN OF 12 FEET ABOVE THE JOINT IS TO BE APPLIED TO THE INTERIOR OF THE ENCLOSURE BY WAY OF A SEALED CONNECTION. THE ENDS OF THE CONDUIT SHALL PROTRUDE THROUGH THE SEALED EXTERIOR OF THE HOUSING IN ORDER TO FACILITATE FOR LEAKAGE OF WATER TO THE INSIDE. THE CONDUIT ASSEMBLY SHALL SHOW NO SIGNS OF LEAKAGE FOR A PERIOD OF 24 HOURS. IF LEAKAGE HAS NOT OCCURRED AT THE END OF THE INITIAL 24 HOUR TEST PERIOD, INCREASE THE PRESSURE 3 P.S.I.G. FOR ADDITIONAL 24 HOUR PERIODS UNTIL LEAKAGE OCCURS.

THE GASKET OR SEALING MEMBER(S) MUST BE POSITIONED SUCH TO ALLOW A MINIMUM INNERDUCT MOVEMENT OF 4.25" WITHOUT DISENGAGING INNERDUCT SEALING MEANS.

INNERDUCTS SHALL BE TESTED FOR AIRTIGHTNESS SEQUENTIALLY USING THE FOLLOWING PROCEDURE OR AN APPROVED EQUIVALENT.

TWO 18" TO 36" LENGTHS OF DUCT (ONE FACTORY BELL END AND ONE FACTORY SPIGOT END) ARE TO FULLY JOINED WITHOUT THE APPLICATION OF CEMENT OR LUBRICANT AND WITHOUT THE USE OF FORCE OTHER THAN REQUIRED BY HAND. ONE END OF AN INNER CONDUIT IS TO BE SEALED WITH A PLUG. THE OPPOSITE END OF THE SAME INNER CONDUIT IS TO BE FITTED WITH A PLUG AND HOSE ASSEMBLY FED BY AN AIR SUPPLY OF 100 P.S.I.G. BEFORE APPLYING AIR PRESSURE. THE INNERDUCT AND PLUGS SHALL BE PROPERLY SECURED IN PLACE TO PREVENT THEM FROM BEING EJECTED BY THE AIR PRESSURE, BUT NOT IN SUCH A FASHION AS TO COMPRESS THE JOINT. ONCE THE APPLICATION OF 100 P.S.I.G. OF AIR PRESSURE IS MADE TO THE CONDUIT, THE TIME REQUIRED TO REACH A STABILIZED CONSTANT PRESSURE OF 15 P.S.I.G. SHALL BE NO LESS THAN 10 MINUTES. THE COUPLING BODY SHALL ALSO SEAL THE INNERDUCT. THE INNERDUCT SHALL BE CAPABLE OF MAINTAINING A MINIMUM OF 15 P.S.I.G. FOR 24 HOURS.

THE COUPLING BODY SHALL ALSO BE CAPABLE OF RELIEVING EXTERNAL PRESSURE TO ELIMINATE THE POSSIBILITY OF INNERDUCT COLLAPSE DUE TO PRESSURE BUILDUP BETWEEN THE INNER AND OUTERDUCTS. THIS PRESSURE BUILDUP MAY POTENTIALLY OCCUR DURING PNEUMATIC RODDING DUE TO A GASKET OR DUCT FAILURE. THE COUPLING BODY SHALL ALSO BE TESTED FOR OUTWARD PRESSURE RELIEF USING THE FOLLOWING PROCEDURES:

TWO 18" TO 36" LENGTHS OF DUCT (BOTH CONTAINING A FACTORY BELL END AND A FACTORY SPIGOT END) ARE TO BE JOINED WITHOUT THE APPLICATION OF CEMENT OR LUBRICANT AND WITHOUT THE USE OF FORCE OTHER THAN REQUIRED BY HAND. A REGULATED AIR SUPPLY OF 40 P.S.I.G. SHALL BE APPLIED THROUGH A THREADED OPENING IN THE OUTERDUCT TO BE AIR SPACE CONFINED BETWEEN THE INNER AND OUTERDUCTS AND BETWEEN THE COUPLING ASSEMBLIES AT EITHER END. BEFORE APPLYING AIR PRESSURE, THE ASSEMBLY TO BE TESTED SHALL BE PROPERLY SECURED IN PLACE TO PREVENT THEM FROM BEING EJECTED APART BY THE AIR PRESSURE, BUT NOT IN SUCH A FASHION AS TO COMPRESS THE JOINT. THE SEALS TESTED SHALL BE CAPABLE OF FREELY RELIEVING THE PRESSURE APPLIED AT A POINT NOT GREATER THAN 10 P.S.I.G.

THE GASKET OR SEALING MEMBER(S) SHALL BE AN ANTI-REVERSING DESIGN IN SUCH THAT THE LENGTHS OF CONDUIT STAY JOINED TOGETHER WITHOUT THE NEED FOR SOLVENT CEMENT.

FIELD CONNECTION END OF THE INTERNAL COUPLING BODY SHALL INCORPORATE SHAPED TARGET AREAS TO ACCOMMODATE SELF-ALIGNMENT OF THE INNERDUCTS WITH BORE OPENINGS DURING FIELD ASSEMBLY.

THE COUPLING BODY SHALL HAVE ONE OF THE BORE OPENINGS ON THE FIELD ASSEMBLY SIDE UNIQUELY IDENTIFIED TO FACILITATE PROPER CONTINUOUS INNERDUCT ALIGNMENT DURING FIELD ASSEMBLY.

ASSEMBLY

THE CONDUIT SYSTEM SHALL BE ASSEMBLED IN THE FIELD PER THE MANUFACTURES INSTRUCTIONS.

THE CONDUIT SHALL BE SUPPLIED WITH AN INTEGRALLY WOUND TAPERED BELL AND GROUND TAPERED SPIGOT TO BE USED WITH AN ADHESIVE. THE STRENGTH OF THE JOINT MUST MEET OR EXCEED THE CONDUIT TENSILE STRENGTH WHEN TESTED IN ACCORDANCE WITH ASTM D2-105.

OPTIONAL JOINING METHODS

THE CONDUIT SHALL BE SUPPLIED WITH A GASKET OR O-RING TO PROVIDE A MECHANICAL NON-ADHESIVE JOINT CAPABLE OF WITHSTANDING JOINT PULL-OUT FORCE OF 200 LBS.

THE CONDUIT SHALL BE SUPPLIED WITH A DOUBLE-LEAD TAPERED, "SPECIAL BUTTRESS TYPE" THREAD ON BOTH BELL AND SPIGOT ENDS TO PROVIDE A MECHANICAL NON-ADHESIVE JOINT CAPABLE OF WITHSTANDING PULL-OUT FORCE OF 1000 LBS.

FITTINGS

THE CONDUIT SYSTEM SHALL BE COMPLETE SYSTEM WITH ALL THE FOLLOWING FITTINGS, INCLUDING BENDS AND SHALL BE MANUFACTURED FROM THE SAME MATERIALS AND MANUFACTURING PROCESS.

PULLBOXES TERMINATOR KITS
DEFLECTION FITTINGS
OFFSET FITTINGS
LUBRICATION FITTINGS
REPAIR KITS
INSTALLATION ACCESSORIES
EXPANSION/CONTRACTION FITTINGS

COLOR

CONDUIT AND FITTINGS SHALL BE PIGMENTED GREY. ALTERNATE COLORS, EXCEPT BLACK, MAY BE AVAILABLE AS AN OPTION.

ULTRAVIOLET PROTECTION

CONDUIT AND FITTINGS SHALL BE SUPPLIED WITH AN ULTRAVIOLET INHIBITOR.

INNERDUCT

THE INNERDUCTS CONTAINED SHALL BE MANUFACTURED FROM HPDE OR AN APPROVED EQUIVALENT. THE INNERDUCT SYSTEM SHALL BE FACTORY INSTALLED AND SHALL BE DESIGNED SO THAT EXPANSION AND CONTRACTION OF THE INNERDUCTS TAKES PLACE IN THE COUPLING BODY AND ELIMINATES COMPATIBILITY PROBLEMS.

THE INNERDUCT SHALL BE PRELUBRICATED DURING THE MANUFACTURING PROCESS TO PROVIDE A PERMANENT NONVOLATILE FINISH.

DYNAMIC CO-EFFICIENT OF FRICTION TESTED IN ACCORDANCE WITH BELLCORE TA-NWT-000356 PROCEDURE SHALL BE AT LEAST:

CABLE TYPE	C.O.F.
F/O HDPE JACKET	.027

DIMENSIONS-INNERDUCT

CODING	NOMINAL SIZE	MAXIMUM I.D.	MINIMUM WALL
4-WAY 4-COLOR	1-1/4"	1.194	0.063

COUPLING BODY

THE COUPLING BODY SHALL BE FACTORY ASSEMBLED IN THE BELL END OF THE OUTERDUCT AND SHALL BE MANUFACTURED FROM A HIGH IMPACT ENGINEERED THERMOPLASTIC. THE COUPLING BODY FACE SHALL BE SUPPLIED WITH LEADINS TO FACILITATE ASSEMBLY.

PAYMENT

THIS ITEM SHALL INCLUDE ALL MATERIAL, TOOLS AND LABOR TO COMPLETE THE JOB TO THE SATISFACTION OF THE PROJECT ENGINEER.
PAYMENT SHALL BE MADE AT THE UNIT BID PRICE PER LIN.FT., ITEM 625 - BRIDGE MOUNTED CONDUIT, AS PER PLAN, 4"
THE CONDUIT SHALL BE PURCHASED FROM ONE OF THE FOLLOWING COMPANIES OR AN APPROVED EQUAL:

VIKIMATIC SALES, INC.
600 PLUM CREEK DR.
P.O.BOX 629
WADSWORTH, OHIO 44281
1-800-345-8454

HASSELBACH & ASSOCIATES, INC.
431 W. SEYMOUR AVE.
CINCINNATI, OHIO 45216
1-800-582-4084

THE GEORGE-INGRAHAM CORP.
4605 STONEGATE INDUSTRIAL BLVD.
STONE MOUNTAIN, GA 30086-1869
1-800-631-6283

ITEM 625 - CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, AS PER PLAN 4"

PROTECTIVE OUTERDUCT FOR BORING SHALL BE 4", SCHEDULE 40, PVC-DUCT WITH EXTENDED MINIMUM 5" INTEGRAL BELL END AND CONFORM TO NEMA-TC2. PROTECTIVE OUTERDUCT FOR BURIAL SHALL BE 4", TYPE C PVC-DUCT WITH EXTENDED MINIMUM 5" INTEGRAL BELL END AND CONFORM TO NEMA-TC10.

ALL BEND RADII SHALL BE FOUR(4) FEET OR GREATER.

MARKING

THE OUTERDUCT SHALL HAVE A LONGITUDINAL RUNNING PRINT LINE THAT DENOTES "INSTALL THIS SIDE UP" SO AS TO ASSURE PROPER INNERDUCT ALIGNMENT.

THE OUTERDUCT SHALL BE MARKED WITH DATA TRACEABLE TO PLANT LOCATION, DATE, SHIFT, AND MACHINE OF MANUFACTURE.

THE OUTERDUCT SHALL HAVE A CIRCUMFERENTIAL RING ON THE SPIGOT END OR DUCT TO PROVIDE A REFERENCE POINT FOR ENSURING TO PROPER INSERTION DEPTH WHEN CONNECTION CONDUIT ENDS.

GASKETS

THERE SHALL BE PROVIDED A PRIMARY COUPLING BODY THAT IS MANUFACTURED AS A MOLDED ONE PIECE THERMOPLASTIC RUBBER OR APPROVED EQUIVALENT AND INCORPORATES INTEGRAL MOLDED SEALING DEVICES TO FACILITATE FIELD ASSEMBLY AND PREVENT WATER AND FOREIGN MATERIAL LEAKAGE FROM OUTSIDE THE MULT-DUCT SYSTEM AND TO PREVENT AIR LEAKAGE FROM INSIDE THE INNERDUCTS. NO LUBRICANT SHALL BE REQUIRED FOR FIELD ASSEMBLY OF THIS PRODUCT AND ASSEMBLY SHALL BE ACCOMPLISHED SOLELY BY HAND WITHOUT USE OF SPECIAL TOOLS.

THE COUPLING BODY SHALL HAVE A PLURALITY OF BORES CONTAINING PRINCIPAL SEALS WHICH ARE MOLDED AS AN INTEGRAL PART OF THE COUPLING BODY.

THE COUPLING BODY WITH ITS SEALING MEMBER(S) MUST SEAL THE OUTER WALLS OF THE INNERDUCTS AND THE INNER WALL OF THE OUTERDUCT PROVIDING AN AIRTIGHT SEAL FROM THE OUTSIDE OF THE OUTERDUCT BY MEANS OF THE FOLLOWING TESTS OR APPROVED EQUIVALENT.

THE EXTERNAL 4" CONDUIT JOINT SHALL BE TESTED FOR WATER TIGHTNESS USING THE FOLLOWING PROCEDURE:

NOTE: FOR ALL TEST PROCEDURES, THE TEST CONDITIONS SHALL BE 73 DEGREES FAHRENHEIT +/- 3 DEGREES WITH A RELATIVE HUMIDITY OF 50 PERCENT UNLESS OTHERWISE SPECIFIED.

TWO 18" TO 36" LENGTHS OF DUCT (ONE FACTORY BELL END AND ONE FACTORY SPIGOT END) ARE TO BE JOINED WITHOUT THE APPLICTION OF CEMENT OR LUBRICANT AND WITHOUT THE USE OF FORCE OTHER THAN REQUIRED BY HAND.
THE CENTER OF THE SECTION OF THE CONDUIT CONTAINING THE JOINT SHALL BE ENCLOSED WITHIN A HOUSING SUITABLE FOR CONTAINING WATER AT OR ABOVE A POSITIVE PRESSURE OF 20 P.S.I.G. OR A WATER COLUMN OF 12 FEET. THE ENCLOSURE IS TO BE SUFFICIENTLY FILLED WITH WATER TO COMPLETELY COVER THE CONDUIT JOINT WITHIN. A REGULATED AIR PRESSURE OF 20 P.S.I.G. OR A WATER COLUMN OF 12 FEET ABOVE THE JOINT IS TO BE APPLIED TO THE INTERIOR OF THE ENCLOSURE BY WAY OF A SEALED CONNECTION. THE ENDS OF THE CONDUIT SHALL PROTRUDE THROUGH THE SEALED EXTERIOR OF THE HOUSING IN ORDER TO FACILITATE INSPECTION FOR LEAKAGE OF WATER TO THE INSIDE. THE CONDUIT ASSEMBLY SHALL SHOW NO SIGNS OF LEAKAGE FOR A PERIOD OF 24 HOURS. IF LEAKAGE HAS NOT OCCURRED AT THE END OF THE INITIAL 24 HOUR TEST PERIOD, INCREASE THE PRESSURE 3 P.S.I.G. FOR ADDITIONAL 24 HOUR PERIODS UNTIL LEAKAGE OCCURS.

THE GASKET OR SEALING MEMBER(S) MUST BE POSITIONED SUCH TO ALLOW A MINIMUM INNERDUCT MOVEMENT OF 4.25" WITHOUT DISENGAGING INNERDUCT SEALING MEANS.

INNERDUCT SHALL BE TESTED FOR AIRTIGHTNESS SEQUENTIALLY USING THE FOLLOWING PROCEDURE OR AN APPROVED EQUIVALENT.

TWO 18" TO 36" LENGTHS OF DUCT (ONE FACTORY BELL END AND ONE FACTORY SPIGOT END) ARE TO BE FULLY JOINED WITHOUT THE APPLICATION OF CEMENT OR LUBRICANT AND WITHOUT THE USE OF FORCE OTHER THAN REQUIRED BY HAND. ONE END OF AN INNER CONDUIT IS TO BE SEALED WITH A PLUG. THE OPPOSITE END OF THE SAME INNER CONDUIT IS TO BE FITTED WITH A PLUG AND HOSE ASSEMBLY FED BY AIR SUPPLY OF 100 P.S.I.G. BEFORE APPLYING AIR PRESSURE. THE INNERDUCT AND PLUGS SHALL BE PROPERLY SECURED IN PLACE TO PREVENT THEM FROM BEING EJECTED BY THE AIR PRESSURE, BUT NOT IN SUCH A FASHION AS TO COMPRESS THE JOINT. ONCE THE APPLICATION OF 100 P.S.I.G. OF AIR PRESSURE IS MADE TO THE CONDUIT, THE TIME REQUIRED TO REACH A STABILIZED CONSTANT PRESSURE OF 15 P.S.I.G. SHALL BE NO LESS THAN 10 MINUTES. THE COUPLING BODY SHALL ALSO SEAL THE INNERDUCT SO THAT AFTER THE APPLICATION OF THE 100 P.S.I.G. TO AN INNERDUCT. THE INNERDUCT SHALL BE CAPABLE OF MAINTAINING A MINIMUM OF 15 P.S.I.G. FOR 24 HOURS.

THE COUPLING BODY SHALL ALSO BE CAPABLE OF RELIEVING EXTERNAL PRESSURE TO ELIMINATE THE POSSIBILITY OF INNERDUCT COLLAPSE DUE TO PRESSURE BUILDUP BETWEEN THE INNER AND OUTERDUCTS. THIS PRESSURE BUILDUP MAY POTENTIALLY OCCUR DURING PNEUMATIC RODDING DUE TO A GASKET OR DUCT FAILURE. THE COUPLING BODY SHALL ALSO BE TESTED FOR OUTWARD PRESSURE RELIEF USING THE FOLLOWING PROCEDURE:

TWO 18" TO 36" LENGTHS OF DUCT (BOTH CONTAINING A FACTORY BELL END AND A FACTORY SPIGOT END) ARE TO BE JOINED WITHOUT THE APPLICATION OF CEMENT OR LUBRICANT AND WITHOUT THE USE OF FORCE OTHER THAN REQUIRED BY HAND. A REGULATED AIR SUPPLY OF 40 P.S.I.G. SHALL BE APPLIED THROUGH A THREADED OPENING IN THE OUTERDUCT TO BE APPLIED THROUGH A THREADED OPENING IN THE OUTERDUCT TO BE AIR SPACE CONFINED BETWEEN THE INNER AND OUTERDUCTS AND BETWEEN THE COUPLING ASSEMBLIES AT EITHER END. BEFORE APPLYING AIR PRESSURE, THE ASSEMBLY TO BE TESTED SHALL BE PROPERLY SECURED IN PLACE TO PREVENT THEM FROM BEING EJECTED APART BY THE AIR PRESSURE, BUT NOT IN SUCH A FASHION AS TO COMPRESS THE JOINT. THE SEALS TESTED SHALL BE CAPABLE OF FREELY RELIEVING THE PRESSURE APPLIED AT A POINT NOT GREATER THAN 10 P.S.I.G.

THE GASKET OR SEALING MEMBER(S) SHALL BE AN ANTI-REVERSING DESIGN IN SUCH THAT THAT THE LENGTHS OF CONDUIT STAY JOINED TOGETHER WITHOUT NEED FOR SOLVENT CEMENT.

FIELD CONNECTION END OF THE INTERNAL COUPLING BODY SHALL INCORPORATE SHAPED TARGET AREAS TO ACCOMMODATE SELFALIGNMENT OF INNERDUCTS WITH BORE OPENINGS DURING FIELD ASSEMBLY.

THE COUPLING BODY SHALL HAVE ONE OF THE BORE OPENINGS ON THE FIELD ASSEMBLY SIDE UNIQUELY IDENTIFIED TO FACILITATE PROPER CONTINUOUS INNERDUCT ALIGNMENT DURING FIELD ASSEMBLY.

ASSEMBLY

THE CONDUIT SYSTEM SHALL BE ASSEMBLED IN THE FIELD PER THE MANUFACTURERS INSTRUCTIONS.

FITTINGS

THE CONDUIT SYSTEM SHALL BE A COMPLETE SYSTEM WITH ALL OF THE FOLLOWING FITTINGS OR AS REQUIRED BY THE MANUFACTURE:

COUPLING KITS
PULL BOX TERMINATOR KITS
LUBRICATION FITTINGS
REPAIR KITS
INSTALLATION ACCESSORIES

BENDS

THE CONDUIT SYSTEM SHALL OFFER A COMPLETE LINE OF FIXED AND FLEXIBLE SWEEPS WITH SYSTEM COMPATIBLE BELL AND SPIGOT ENDS.

FIXED AND FLEXIBLE 4-WAY BENDS SHALL BE SUPPLIED WITH HIGH TEMPERATURE BURN-THROUGH RESISTANT INNERDUCTS OF THE SAME MATERIALS AS THE STRAIGHT SECTIONS OF CONDUIT AND USING THE SAME COLOR CODING.

FIXED BENDS

THE CONDUIT SYSTEM SHALL OFFER THE FOLLOWING STANDARD FIXED BENDS:

DEGREE RADIUS	BEND(DEGREES)	SYSTEM
4'	11-1/4	
6'	22-1/2	4-WAY
9'	45	
	90	

FLEXIBLE BEND

THE FLEXIBLE BEND SHALL BE SUPPLIED IN TWO LENGTHS TO MEET FIELD REQUIREMENTS.

LENGTH		RADIUS(DEGREES)	DEGREE BEND SYSTEM
126"	MIN.4 FT.	0-90	4-WAY
6 FT.	0-70		
9 FT.	0-55		
192"	MIN.4 FT.	0-90	4-WAY
6 FT.	0-90		
9 FT.	0-90		

CAUTION: FLEXIBLE BENDS SHALL NOT BE BENT BEYOND THE MINIMUM 4 FOOT RADIUS.

INNERDUCT

THE INNERDUCTS CONTAINED WITHIN THE PVC OUTERDUCT SHALL BE MANUFACTURED FROM HDPE OR APPROVED EQUIVALENT. THE INNERDUCT SYSTEM SHALL BE FACTORY INSTALLED AND SHALL BE DESIGNED SO THAT EXPANSION AND CONTRACTION OF THE INNERDUCTS TAKES PLACE IN THE COUPLING BODY.

DYNAMIC CO-EFFICIENT OF FRICTION (COF) TESTED IN ACCORDANCE WITH BELLCORE TA-NWT-000356 PROCEDURE SHALL BE:

CABLE TYPE	C.O.F.
F/O HDPE JACKET	.027

DIMENSIONS-INNERDUCT

CODING	NOMINAL SIZE	MAXIMUM I.D.	MINIMUM WALL
4-WAY 4-COLOR	1-1/4"	1.194	0.063

COUPLING BODY

THE COUPLING BODY SHALL BE FACTORY ASSEMBLED IN THE BELL END OF THE OUTERDUCT AND SHALL BE MANUFACTURED FROM A HIGH IMPACT ENGINEERING THERMO-PLASTIC. THE COUPLING BODY FACE SHALL BE SUPPLIED WITH LEAD-INS TO FACILITATE ASSEMBLY.

MARKING

THE COUPLING BODY SHALL HAVE EACH CONDUIT ENTRANCE IDENTIFIED WITH A REFERENCE POINT FOR PROPER ALIGNMENT AND CONTINUITY OF THE COLOR CODED INNERDUCT.

COUPLING BODY FACE SHALL BE SUPPLIED WITH LEADINS TO FACILITATE ASSEMBLY.

PAYMENT

THIS ITEM SHALL INCLUDE ALL MATERIAL, TOOLS AND LABOR TO COMPLETE THE JOB TO THE SATISFACTION OF THE PROJECT ENGINEER.
PAYMENT SHALL BE MADE AT THE UNIT BID PRICE PER LIN.FT., ITEM 625 - CONDUIT JACKED OR DRILLED UNDER PAVEMENT, AS PER PLAN, 4"
THE CONDUIT SHALL BE PURCHASED FROM ONE OF THE FOLLOWING COMPANIES OR AN APPROVED EQUAL:

VIKIMATIC SALES, INC.
600 PLUM CREEK DR.
P.O. BOX 629
WADSWORTH, OHIO 44281
1-800-345-8454

HASSELBACH & ASSOCIATES, INC.
431 W. SEYMOUR AVE.
CINCINNATI, OHIO 45216
1-800-582-4084

THE GEORGE-INGRAHAM CORP.
4605 STONEGATE INDUSTRIAL BLVD.
STONE MOUNTAIN, GA 30086-1869
1-800-631-6283

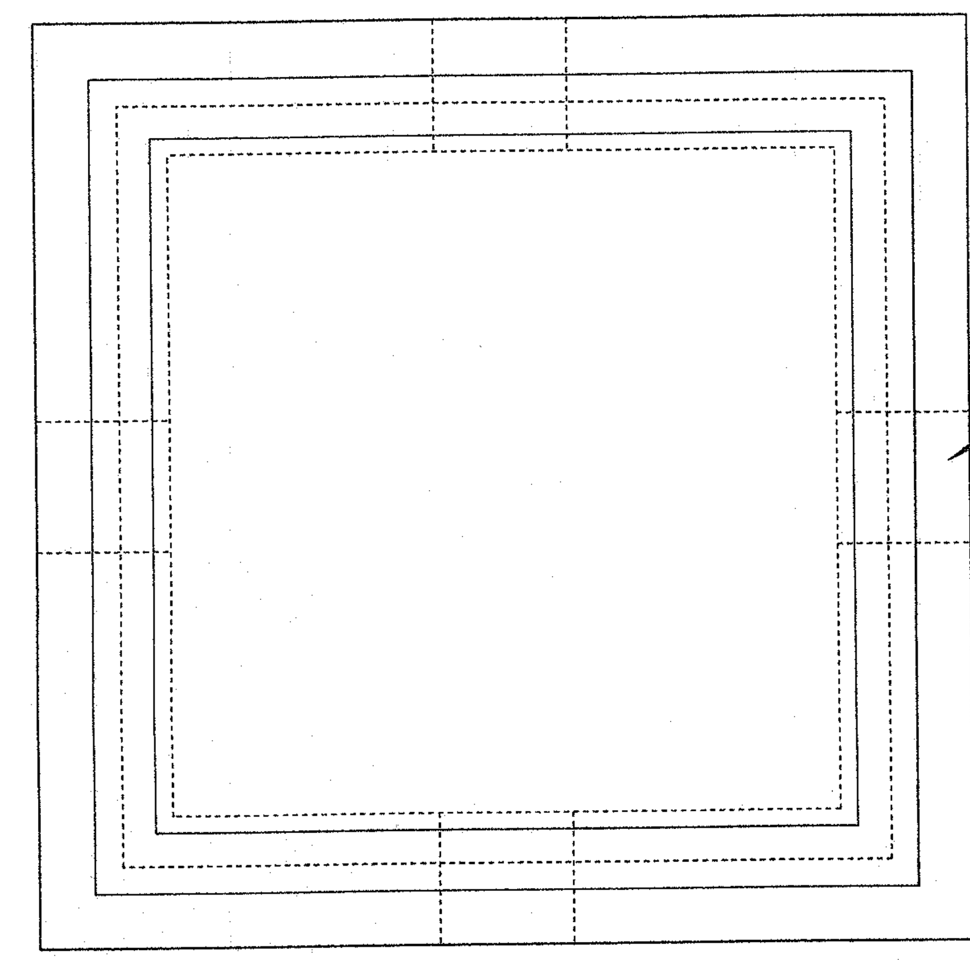
CALC. BY: JDM DATE: 3/20/95	FHWA REGION	STATE	PROJECT		28E
CHKD. BY: JBB DATE: 3/25/95	5	OHIO			615

HAM-71-1.30/9.00

RTMS

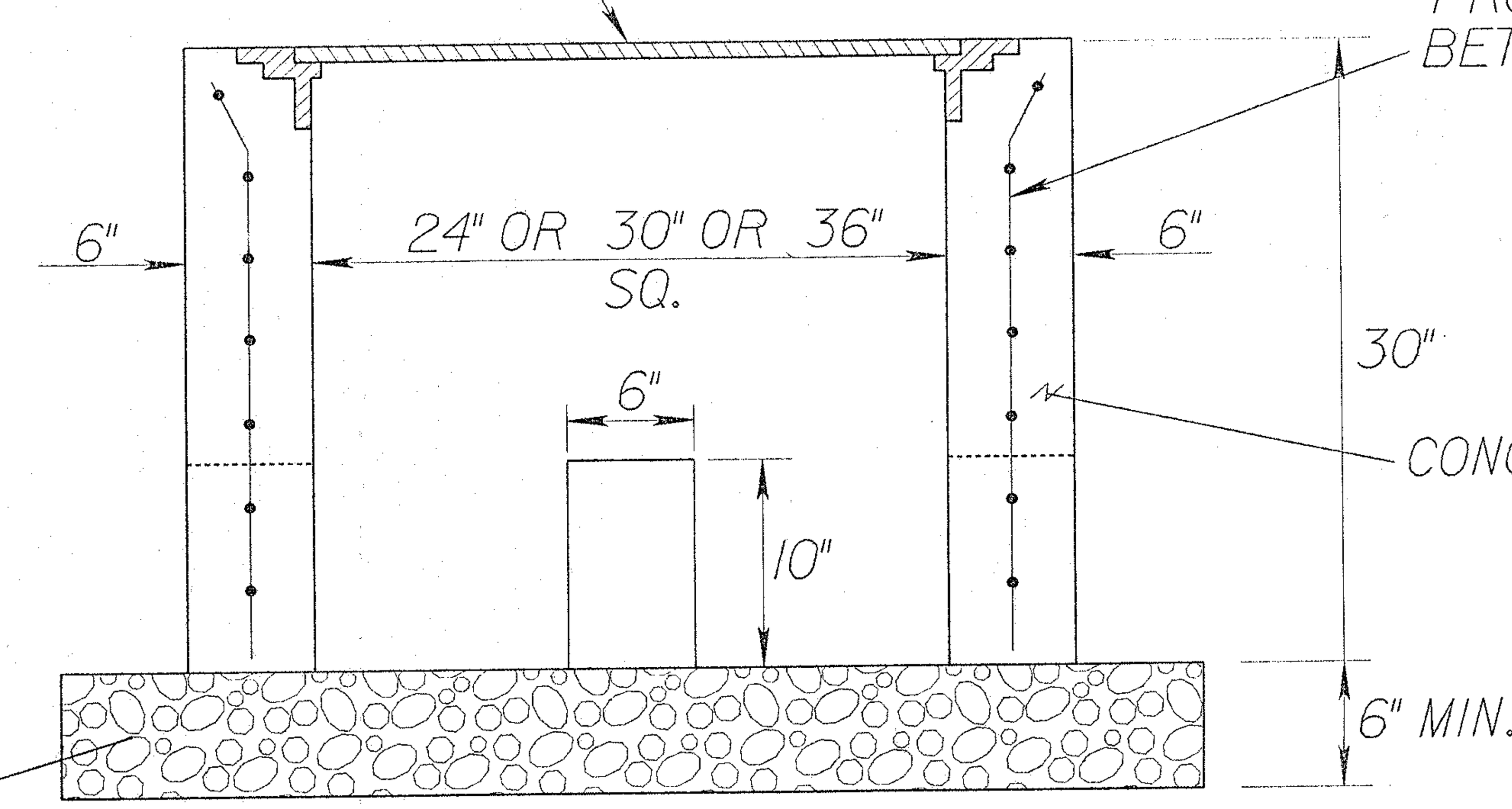
NOTE: FRAME AND COVER FOR R-6665-2LP AND R-6665-2PP INCLUDES COUNTERSUNK HEXHEAD CAP SCREWS, FLAT NEOPRENE GASKET, AND A TYPE G WATERPROOF LIFT HANDLE.

- PULL BOXES SHALL CONFORM WITH 625.11 & 713.08 FOR ADDITIONAL NOTES & DETAILS REFER TO STANDARD CONSTRUCTION DRAWING HL-30.11 DATED 5-1-87



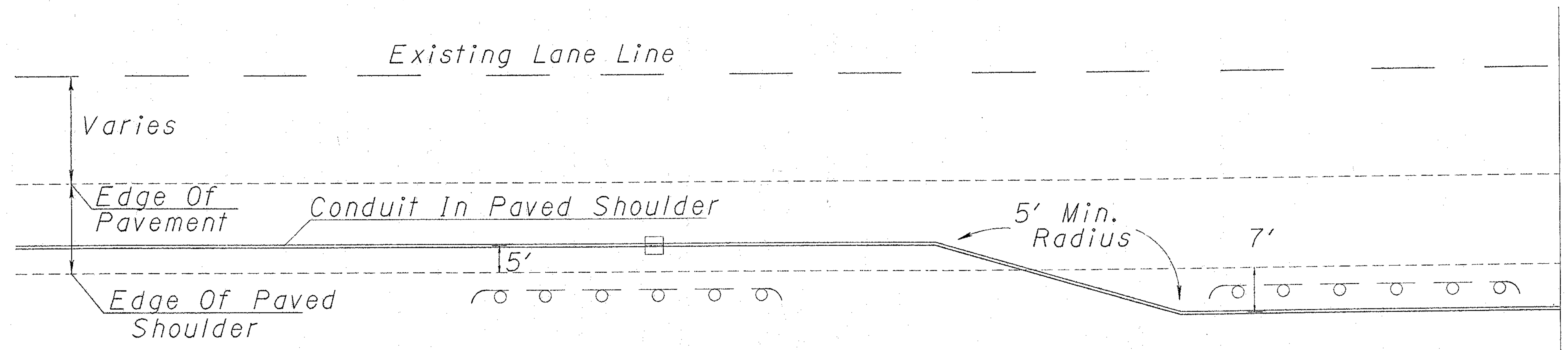
PLAN

NOTE: CONCRETE 4000 P.S.I.(MIN.) AT 28 DAYS (CLASS C)



SECTION

RTMS TYPICAL
PART 1 SHOULDER DETAIL
STA 175+00NB TO STA 213+00NB

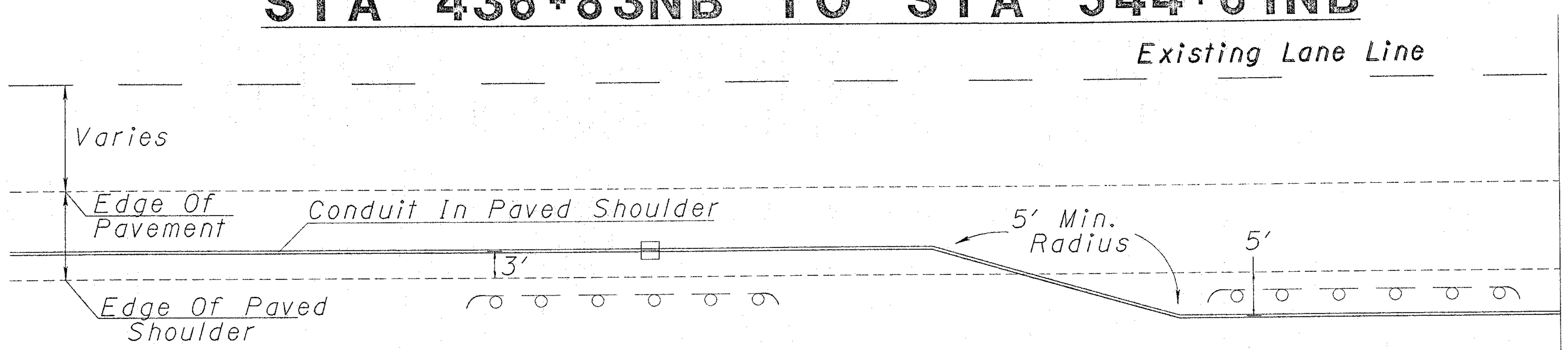


NOTE

1) Contractor shall insure that existing & proposed drainage, traffic control, and electrical systems are not disturbed by the proposed RTMS conduit. If a conflict does exist, the elevation of the RTMS conduit shall be adjusted to eliminate the conflict. The original plans on I-71 are available at the District Office, for review by the contractor.

2) Conduit shall be installed 2 feet deep. Where conflicts exist, the depth of the conduit shall be field adjusted to satisfy existing conditions, subject to the approval of the Project Engineer.

RTMS TYPICAL
PART 2 SHOULDER DETAIL
STA 436+83NB TO STA 544+61NB



MAINTENANCE OF TRAFFIC NOTES

GENERAL REQUIREMENTS

IT IS THE INTENTION TO PERFORM THE REQUIRED WORK WITH THE LEAST INCONVENIENCE TO AND THE MAXIMUM SAFETY OF THE CONTRACTOR AND THE TRAVELING PUBLIC. THE REQUIREMENTS FOR MAINTAINING TRAFFIC AS INDICATED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (REFERRED TO AS "OHIO MANUAL"), CURRENT EDITION, AND PERTINENT ITEMS OF THE OHIO DEPARTMENT OF TRANSPORTATION (ODOT) SPECIFICATIONS AND PROPOSAL SHALL APPLY IN ADDITION TO THE FOLLOWING NOTES.

THE WORK LIMITS SHOWN ON THE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TRAFFIC CONTROL DEVICES REQUIRED BY THE "OHIO MANUAL" SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THE WORK LIMITS.

SHOULD ANY PAVED AREAS NOT DESIGNATED FOR MAINTAINING TRAFFIC BECOME DAMAGED OR DESTROYED DUE TO THE CONTRACTOR'S NEGLIGENCE OR FAILURE TO PROVIDE ADEQUATE SIGNS, BARRICADES, CONES, FLAGGERS OR OTHER TRAFFIC CONTROL DEVICES, THE RESTORATION OF THE PAVED AREAS SHALL BE AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE ENGINEER.

SHOULD THE CONTRACTOR DESIRE TO, AN ALTERNATE MAINTENANCE OF TRAFFIC PLAN MAY BE SUBMITTED FOR APPROVAL. NO ALTERNATE PLAN SHALL BE PLACED IN EFFECT UNTIL APPROVAL HAS BEEN GRANTED IN WRITING BY THE DIRECTOR.

ITEM 614 – MAINTAINING TRAFFIC

THE CONTRACTOR SHALL MAINTAIN TRAFFIC AT ALL TIMES IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIFICATION 614 AND AS SPECIFIED HEREIN.

TRAFFIC IS TO BE MAINTAINED IN A UNIFORM PATTERN THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT. WORK CAN BE PERFORMED SIMULTANEOUSLY IN THE NORTHBOUND AND SOUTHBOUND LANES, PROVIDED THE OPERATIONS DO NOT INTERFERE WITH EACH OTHER. THE CONTRACTOR SHALL ARRANGE HIS OPERATIONS SO AS TO PREVENT ANY INTERFERENCE TO THE FLOW OF TRAFFIC. ALL VEHICLES, EQUIPMENT, MEN AND THEIR ACTIVITIES ARE RESTRICTED AT ALL TIMES TO ONE SIDE OF THE DIRECTIONAL PAVEMENT UNLESS OTHERWISE APPROVED BY THE ENGINEER.

VEHICLES AND EQUIPMENT SHALL ALWAYS MOVE WITH, AND NOT ACROSS OR AGAINST THE FLOW OF TRAFFIC, EXCEPT AS NOTED BELOW. VEHICLES AND OTHER EQUIPMENT SHALL NOT PARK OR STOP EXCEPT WITHIN DESIGNATED WORK AREAS, AND SHALL NOT ENTER AND LEAVE WORK AREAS IN A MANNER WHICH WILL BE HAZARDOUS TO, OR INTERFERE WITH THE NORMAL TRAFFIC FLOW. PERSONAL VEHICLES WILL NOT BE PERMITTED TO PARK WITHIN THE RIGHT-OF-WAY EXCEPT IN SPECIFIC AREAS DESIGNATED BY THE ENGINEER.

EQUIPMENT, VEHICLES, AND MATERIAL SHALL NOT BE STORED OR PARKED ON THE PROJECT WITHIN (30) THIRTY FEET OF THE EDGE OF THE TRAVELED PAVEMENT, UNLESS SIX FEET BEHIND THE GUARDRAIL. **

THE CONTRACTOR SHALL ARRANGE TRAFFIC CONTROL DEVICES SO TRAFFIC TO AND FROM I-71 IS MAINTAINED AT ALL TIMES AND AT ALL INTERCHANGES, UNLESS OTHERWISE INDICATED IN THE PLANS. A "ROAD CONSTRUCTION AHEAD" SIGN (OW-128) SHALL BE PLACED ON ALL RAMPS LEADING ONTO I-71 AND AT WORK LIMITS.

THE CONTRACTOR WILL BE REQUIRED TO PROVIDE, ERECT, MAINTAIN (PROPER POSITION, KEPT CLEAN AND LEGIBLE, AND IN GOOD WORKING CONDITION), AND REMOVE LIGHTS, SIGNS, DRUMS, AND ALL OTHER TRAFFIC CONTROL DEVICES NECESSARY FOR THE MAINTENANCE OF TRAFFIC. ALL SIGNS SHALL BE REFLECTORIZED OR ILLUMINATED. PLACEMENT OF ALL TRAFFIC CONTROL DEVICES SHALL START AND PROCEED IN THE DIRECTION OF THE FLOW OF TRAFFIC. REMOVAL OF TRAFFIC CONTROL DEVICES SHALL START AT THE END OF THE CONSTRUCTION AREA AND PROCEED TOWARD ONCOMING TRAFFIC. THE CONTRACTOR SHALL PROVIDE FOR THE INSTALLATION OF ALL NECESSARY TRAFFIC CONTROL DEVICES BEFORE BEGINNING WORK AND IMMEDIATELY REMOVE THESE DEVICES WHEN WORK IS SUSPENDED OR COMPLETED.

SECTION 1

MAINTAIN A MINIMUM OF TWO (2) 10' LANES IN EITHER DIRECTION. ACCESS TO AND FROM ALL RAMPS SHALL BE MAINTAINED AT ALL TIMES; EXCEPT AS NOTED IN THE PLANS. THE CITY OF CINCINNATI SHALL COORDINATE WITH THE CONTRACTOR ON THE MAINTENANCE OF TRAFFIC PLAN DURING PAVEMENT PLANING AND RESURFACING IN THE LYTLE PARK TUNNEL. THE TUNNEL MAY BE CLOSED ON WEEKENDS ONLY.

SECTION 2

MAINTAIN A MINIMUM OF TWO (2) 10' LANES IN EITHER DIRECTION. ACCESS TO AND FROM ALL RAMPS SHALL BE MAINTAINED AT ALL TIMES, EXCEPT AS NOTED IN THE PLANS.

DURING ALL HOURS WHEN TRAFFIC IS RESTRICTED TO LESS THAN THE NUMBER OF EXISTING LANES, THE CONTRACTOR SHALL EMPLOY AT LEAST ONE FULL TIME QUALIFIED PERSON TO PATROL THE RESTRICTED AREA(S), TO MAINTAIN ALL LIGHTS, SIGNS, BARRICADES, DRUMS, ETC. IN ORDER TO TO PROVIDE A SAFE FACILITY FOR THE TRAVELING PUBLIC. ***

BEFORE THE WORK BEGINS, THE CONTRACTOR WILL PROVIDE THE ENGINEER WITH THE NAMES AND TELEPHONE NUMBER(S) OF TWO PERSONS WHO CAN BE CONTACTED 24 HOURS A DAY BY THE ENGINEER, AFFECTED PUBLIC AGENCIES, AND ALL INTERESTED POLICE AGENCIES, TO REPAIR AND/OR REPLACE THE TRAFFIC CONTROL DEVICES AS NEEDED TO MAINTAIN THE SAFETY OF THE TRAVELED PAVEMENT.

IN ANY INSTANCE WHERE EITHER THE ACCELERATION LANE OR THE DECELERATION LANE IS SHORTENED OR OBSTRUCTED DUE TO WORK AND/OR STANDARD LANE CLOSURES, SUCH WORK SHALL BE COMPLETED "AS SOON AS POSSIBLE" SO AS TO PERMIT THE LANE CLOSURES TO BE MOVED TO A LOCATION WHERE SAID ACCELERATION OR DECELERATION LANES ARE NO LONGER SHORTENED.

THE TERM "AS SOON AS POSSIBLE" AS MENTIONED IN THIS NOTE SHALL BE DEFINED AS HAVING TOP PRIORITY OF ALL WORK, AND IF DEEMED NECESSARY, THE ENGINEER RESERVES THE RIGHT TO INSTRUCT THE CONTRACTOR TO WORK 24 HOURS A DAY UNTIL SUCH WORK IS COMPLETED TO THE SATISFACTION OF THE ENGINEER. ANY ADDITIONAL COST INCURRED DUE TO THE ENGINEER'S DECISION TO REQUIRE 24 HOUR A DAY WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND INCLUDED UNDER LUMP SUM ITEM 614 MAINTAINING TRAFFIC. FAILURE OF THE CONTRACTOR TO COMPLY WITH THIS NOTE, AS DETERMINED BY THE ENGINEER, SHALL MAKE THE CONTRACTOR SUBJECT TO LIQUIDATED DAMAGES AS PER SPECIFICATION 108.07 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

NO RESTRICTIONS WILL BE PERMITTED WHEN THE CONTRACTOR IS NOT ACTIVELY WORKING.

LANE CLOSURE FOR PAVEMENT, JOINT REPAIRS, PAVEMENT RESURFACING, OR BRIDGE DECK WORK MAY BE IN TWO LANES OR MORE OF PAVEMENT DIRECTION AT ANY GIVEN TIME.

TRAFFIC CONTROL

THE INSTALLATION, MAINTENANCE AND OPERATION OF TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE REQUIREMENTS OF THE "OHIO MANUAL" AND AS SPECIFIED PER ITEM 614.03.

TEMPORARY PAVEMENT MARKINGS SHALL BE IN PLACE PRIOR TO A STAGE OF CONSTRUCTION BEING OPENED TO TRAFFIC. *

THE STANDARD DEVICE FOR CLOSING ANY LANE(S) TO TRAFFIC SHALL BE PROPERLY WEIGHTED AND REFLECTORIZED PLASTIC DRUMS.

DRUMS SHALL BE CONSTRUCTED, REFLECTORIZED, AND USED IN ACCORDANCE WITH ITEM 614.03 AND THE "OHIO MANUAL." DRUMS SHALL BE SPACED AT A MAXIMUM INTERVAL OF 50 FEET CENTER TO CENTER UNLESS SHOWN OTHERWISE IN THESE PLANS OR OTHERWISE DIRECTED BY THE ENGINEER.
The CONTRACTOR SHALL ADJUST THE SPACING ON ALL DRUMS AS DIRECTED BY THE ENGINEER TO ALLOW ACCESS AS REQUIRED WHILE MAINTAINING SAFETY DURING CONSTRUCTION.

THE CONTRACTOR SHALL FURNISH AND INSTALL TWO (2) "WATCH FOR STOPPED TRAFFIC" SIGNS (OW-166) 1300 FEET DOWNSTREAM FROM THE "ROAD CONSTRUCTION AHEAD" SIGN (OW-128). IF TRAFFIC BACKUPS REACH THE "WATCH FOR STOPPED TRAFFIC" SIGNS, THE CONTRACTOR SHALL INSTALL TWO (2) ADDITIONAL "WATCH FOR STOPPED TRAFFIC" SIGNS EVERY 2000 FEET UPSTREAM FROM THE BACKUP OR THE "ROAD CONSTRUCTION AHEAD" SIGN. THE NECESSITY FOR THESE SIGNS SHALL BE CONSTANTLY MONITORED BY THE CONTRACTOR. ****

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING SAFE AND ADEQUATE TRAFFIC CONTROL AT ALL TIMES.

THE CONTRACTOR SHALL GIVE THE CITY OF CINCINNATI 14 DAYS ADVANCE NOTICE BEFORE CLOSING ANY RAMP.

I-71 Final Completion Date

CONSTRUCTION OF I-71 MUST BE COMPLETED BY THE DATE SPECIFIED IN THE CONTRACT. LIQUIDATED DAMAGES IN THE AMOUNT OF $20,000/DAY WILL BE ASSESSED IF CONSTRUCTION IS NOT COMPLETED BY THE SPECIFIED DATE.

SECTION 1 RAMPS

RAMP E SHALL BE CLOSED ONLY DURING STAGE 3, AND ALL WORK PERFORMED ON THIS RAMP SHALL BE DONE DURING THIS STAGE. LIQUIDATED DAMAGES IN THE AMOUNT OF $1,400/DAY WILL BE ASSESSED IF RAMP E IS NOT REOPENED IN THE TIME PERIOD SPECIFIED IN THE CONTRACT.

RAMPS H, N, B, RF, & RB

THESE RAMPS SHALL BE CLOSED FOR THE DURATION OF WORK IN SECTION I.

NORTHBOUND I-471 RAMP

THE NORTHBOUND I-471 RAMP MUST REMAIN OPEN AT ALL TIMES.

RAMP FROM SOUTHBOUND I-71 TO RAMP GF

THE SOUTHBOUND I-471 RAMP MAY BE CLOSED BETWEEN THE HOURS OF 9:00 P.M. AND 6:00 A.M., MONDAY THROUGH FRIDAY AND BETWEEN THE HOURS OF 9:00 P.M. FRIDAY EVENING UNTIL 6:00 A.M. THE FOLLOWING MONDAY MORNING. LIQUIDATED DAMAGES IN THE AMOUNT OF $250/HR WILL BE ASSESSED IF THE RAMP REMAINS CLOSED BEYOND THE SPECIFIED TIME.

RAMPS RA & GA

RAMPS RA AND GA MAY BE CLOSED BETWEEN THE HOURS OF 9:00 P.M. AND 6:00 A.M., MONDAY THROUGH FRIDAY. ONCE COMPLETE, RAMPS SHALL BE OPENED TO TRAFFIC. LIQUIDATED DAMAGES OF $1,000/HR/RAMP WILL BE ASSESSED FOR EVERY HOUR OR PORTION THEREOF THAT RAMPS RA AND GA ARE CLOSED BEYOND THE ALLOWABLE TIME PERIOD.

RAMPS GD, GF, GG, RC, RD, RE AND NORTHBOUND READING ROAD.

THESE RAMPS MUST REMAIN OPEN TO TRAFFIC AT ALL TIMES.

SECTION 2 RAMPS

RAMP A SHALL BE CLOSED FOR A MAXIMUM OF 30 CALENDAR DAYS. DURING THIS CLOSURE ALL WORK ON RAMP A, INCLUDING THE BRIDGE DECK FOR BRIDGE HAM-71-0986 AND ALL WORK ON BRIDGE HAM-71-9656L FROM THE RIGHT LANE OF SOUTHBOUND I-71 TO THE OUTSIDE SHOULDER OF THE RAMP, SHALL BE PERFORMED. FAILURE TO REOPEN RAMP A AT THE END OF 30 CALENDAR DAYS SHALL RESULT IN THE ASSESSMENT OF LIQUIDATED DAMAGES AS PER SPECIFICATION 108.07 FOR EACH DAY THAT THE RAMP IS NOT OPEN.

RAMPS B & F

THESE RAMPS MAY BE CLOSED BETWEEN THE HOURS OF 9:00 P.M. AND 6:00 A.M. MONDAY THROUGH FRIDAY AND BETWEEN THE HOURS OF 9:00 P.M. FRIDAY EVENING TO 6:00 A.M. THE FOLLOWING MONDAY. FAILURE TO REOPEN THE RAMP BY THE SPECIFIED TIME SHALL RESULT IN THE ASSESSMENT OF LIQUIDATED DAMAGES IN THE AMOUNT OF $250/HOUR. RAMP F SHALL NOT BE CLOSED CONCURRENTLY WITH RAMP A.

* Removal of conflicting pavement markings shall be by sandblasting, waterblasting, or temperature burning with excess oxygen.

** All Contractor's equipment and vehicles shall be equipped with hazard strobe beacons.

*** This person shall be equipped with a car phone; also two (2) car phones shall be furnished to the Engineer so that constant communication between the Engineer and the patrol person can be maintained.

**** The necessity for these signs shall be constantly monitored by the Contractor's full-time qualified patrol person.

No changes in traffic control patterns (lane closures, etc.) shall be made between the hours of 6:00 AM to 9:00 AM and 3:00 PM to 7:00 PM Monday through Friday, or the period two (2) hours before through two (2) hours after an event at Riverfront Stadium or a Special Event by the City of Cincinnati.

The Contractor shall provide 14 days advance notice of any ramp closure to the Engineer.

MAINTENANCE OF TRAFFIC NOTES

ITEM 615 - TEMPORARY PAVEMENT, AS PER PLAN

TEMPORARY PAVEMENT, AS PER PLAN SHALL BE PLACED AT THE LOCATIONS AS LISTED ON SHEET 32A. THE WORK SHALL CONSIST OF REMOVING THE EXISTING BITUMINOUS AGGREGATE SHOULDER, RECOMPACTING THE SUBGRADE TO THE SATISFACTION OF THE ENGINEER, AND PLACING 8" OF ITEM 301 BITUMINOUS AGGREGATE BASE. IN AREAS EXCEPT THOSE DESIGNATED IN THE PLANS AS FULL DEPTH SHOULDER REPLACEMENT (FDSR), THE TEMPORARY PAVEMENT SHALL REMAIN IN PLACE, TO BE COVERED BY THE PROPOSED RESURFACING.

ITEM 404 - BITUMINOUS CONCRETE FOR MAINTAINING TRAFFIC

THIS ITEM IS INCLUDED TO BE USED TO WEDGE ALONG THE INSIDE BERM AND EDGE OF CONCRETE PAVEMENT IN SECTION 2 AS WELL AS TO FILL IN ANY LOW AREAS. TEMPORARY ONE-LANE NIGHT CLOSURES AS PER THE "OHIO MANUAL" WILL BE PERMITTED IN ORDER TO PERFORM THIS WORK PRIOR TO STAGE I. THE CONTRACTOR SHALL MAINTAIN THIS EDGE AND BERM THROUGHOUT THE DURATION OF STAGE I TO THE SATISFACTION OF THE ENGINEER, WITH ANY ADDITIONAL ASPHALT NEEDED TO BE INCLUDED FOR PAYMENT UNDER THIS ITEM. PAYMENT FOR THIS ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIAL, AND MAINTENANCE OF TRAFFIC NEEDED TO PERFORM THE WORK AS DIRECTED BY THE ENGINEER. AN ESTIMATED QUANTITY OF 100 CU.YDS. HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ITEM 617 - COMPACTED AGGEGATE FOR SPOT TREATMENT

THIS ITEM IS INCLUDED TO BE USED IN AREAS WHERE TRAFFIC IS BEING MAINTAINED ON AN EXISTING OR PAVED SHOULDER ADJACENT TO A GRADED BERM. THE CONTRACTOR SHALL USE THIS ITEM TO MAINTAIN THE BERM SO THAT THERE IS NO MORE THAN A ONE (1") INCH DROP OFF FROM THE SHOULDER TO THE BERM WHILE TRAFFIC IS BEING MAINTAINED ON THE SHOULDER. THIS ITEM SHALL BE PLACED AS PER ITEM 410 EXCEPT THAT THE MATERIAL USED SHALL BE AS PER ITEM 304. PAYMENT WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIAL AND MAINTENANCE OF TRAFFIC NEEDED TO PERFORM THE WORK AS DIRECTED BY THE ENGINEER. AN ESTIMATED QUANTITY OF 700 CU.YDS. HAS BEEN CARRIED TO THE GENERAL SUMMARY. REMOVAL OF THIS MATERIAL PRIOR TO PLACEMENT OF PERMANENT ITEM 617 SHALL BE CONSIDERED INCIDENTAL TO APPROPRIATE SHOULDER PREPARATION OR LINEAR GRADING ITEMS.

ITEM 604 - INLET ADJUSTED TO GRADE, AS PER PLAN

EXISTING CATCH BASIN INLETS ALONG THE INSIDE SHOULDERS MUST BE ADJUSTED TO GRADE IN ORDER TO MAINTAIN TRAFFIC. PRIOR TO PLACING TEMPORARY PAVEMENT, EXISTING CONCRETE APRONS AROUND THE CATCH BASINS SHALL BE REMOVED AND THE INLET ADJUSTED TO THE TEMPORARY PAVEMENT GRADE AS PER ITEM 604. CARE SHALL BE EXERCISED WHEN REMOVING THE EXISTING CONCRETE APRON SO THAT THE EXISTING INLET CASTING IS NOT DAMAGED. ANY CASTINGS DAMAGED BY THE CONTRACTOR'S OPERATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. PAYMENT FOR THIS ITEM SHALL INCLUDE ALL LABOR, MATERIAL AND EQUIPMENT NEEDED TO PERFORM THIS WORK TO THE SATISFACTION OF THE ENGINEER. AN ESTIMATED QUANTITY OF 42 EACH HAS BEEN CARRIED TO THE GENERAL SUMMARY.

INTERIM COMPLETION DATES

SECTION 2 STA. 434+25 TO STA. 548+35.98

ALL LANES AND SHOULDERS (BOTH NORTHBOUND AND SOUTHBOUND I-71 AND ALL RAMPS) SHALL BE COMPLETED AND OPENED TO UNRESTRICTED TRAFFIC BY NOVEMBER 15, 1995. THIS SHALL INCLUDE ALL PAVEMENT REPAIRS, PAVING, STRUCTURE REPAIRS AND OVERLAYS, DRAINAGE, GUARDRAILS, CONCRETE BARRIERS, PAVEMENT MARKINGS, RAISED PAVEMENT MARKERS, GROUND MOUNTED SIGNS, BRIDGE PAINTING, AND CONSTRUCTION OF FOUNDATIONS AND INSTALLATION OF CONDUITS AND CABLES FOR LIGHTING AND OVERHEAD SIGNS.

DAILY LANE CLOSURES BETWEEN THE HOURS OF 9:00 A.M. AND 3:00 P.M. WILL BE PERMITTED, SUBJECT TO THE APPROVAL OF THE ENGINEER, BETWEEN NOVEMBER 15, 1995 AND MARCH 1, 1996 FOR THE PURPOSE OF ERECTING NEW LIGHT POLES AND OVERHEAD SIGN SUPPORTS.

SECTION I

SOUTHBOUND STA. 182+00 TO STA. 215+62.5
NORTHBOUND STA. 182+00 TO STA. 215+62.5

DURING THE PERIOD MARCH 1, 1996 TO JUNE 15, 1996 ALL WORK INCLUDING ALL PAVEMENT REPAIRS, PAVING, STRUCTURE REPAIRS AND OVERLAYS, GUARDRAILS, BARRIERS, DRAINAGE, SIGNING AND LIGHTING, BUT EXCLUDING PERMANENT PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS, SHALL BE COMPLETED. THE PERMANENT PAVEMENT MARKINGS AND RAISED PAVEMENT MARKERS SHALL BE INSTALLED BETWEEN THE DATES OF SEPTEMBER 15, 1996 AND SEPTEMBER 30, 1996.

SOUTHBOUND STA. 125+40 TO STA. 182+00
NORTHBOUND STA. 127+10 TO STA. 182+00

ALL LANES, SHOULDERS, RAMPS, OVERHEAD STREETS, AND APPURTENANCES SHALL BE COMPLETE AND OPENED TO UNRESTRICTED TRAFFIC BY SEPTEMBER 30, 1996.

THE ABOVE INTERIM COMPLETION DATES FOR SECTION I AND SECTION 2 SHALL BE SUBJECT TO INCENTIVE/DISINCENTIVE PROVISIONS AS DETAILED IN OTHER PLAN NOTES AND IN THE PROPOSAL.

INCENTIVE/DISINCENTIVE PROVISIONS

IT IS THE CLEAR INTENT OF THIS CONTRACT TO PROVIDE FOR A MAXIMUM CONTRACTOR EFFORT AND DETAILED SCHEDULING TO COMPLETE THE WORK ON OR BEFORE THE INTERIM AND FINAL COMPLETION DATES LISTED BELOW IN THESE PLANS. WORK IS DIVIDED INTO TWO WIDELY SEPARATED SECTIONS REQUIRING COMPLETION AS NOTED IN THE INTERIM COMPLETION DATES NOTE. THE CONTRACTOR IS CAUTIONED TO REVIEW THE PROPOSAL NOTES FOR 101 DEFINITIONS AND TERMS INCLUDING INCENTIVE AND DISINCENTIVE CLAUSES AND AMOUNT APPLICABLE TO BOTH SECTIONS OF WORK. COMPLETION OF ALL CRITICAL WORK PRIOR TO THE INTERIM OR FINAL COMPLETION DATES IS REQUIRED TO BE ELIGIBLE FOR THE INCENTIVE AMOUNT PROVIDED IN THE PROPOSAL. EXCEPTIONS TO "CRITICAL WORK" SHALL BE LIMITED TO ITEMS OF WORK NOT REQUIRING INTERFERENCE WITH ANY TRAVELLED LANE OF PAVEMENT. SHOULD ANY SUCH INTERFERENCES OCCUR AFTER THE INTERIM OR FINAL COMPLETION DATES, THE DISINCENTIVE AMOUNT WILL BE DEDUCTED FROM MONIES DUE THE CONTRACTOR. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE ACQUISITION, SCHEDULING, DELIVERY, AND APPROVAL OF ALL CRITICAL MATERIALS SUCH THAT INTERIM AND FINAL COMPLETION DATES ARE MET.

SCHEDULING

THE CONTRACTOR IS REQUIRED TO PROVIDE THE ENGINEER AN ACCEPTABLE PRELIMINARY PRIMAVERA CRITICAL PATH SCHEDULE AS NOTED IN THE PROPOSAL PRIOR TO THE COMMENCEMENT OF WORK. THIS SCHEDULE SHALL BREAK DOWN THE PROJECT INTO THE SEPARATE OPERATIONS AND/OR PROCESSES NECESSARY FOR ITS COMPLETION. THIS SHALL DETERMINE, THROUGH NETWORK ANALYSIS, A COMPLETION TIME FOR ITEMS OF WORK AND THE CRITICAL PATH REQUIRED TO MEET THESE DATES. THIS SCHEDULE SHALL BE REVIEWED AND ACCEPTED BY THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK. THE ENGINEER SHALL SCHEDULE AND CONDUCT WEEKLY MEETINGS TO MONITOR PROGRESS, INCLUDING ALL SUBCONTRACTOR, SUPPLIER, FABRICATOR, AND/OR VENDOR ACTIVITIES REQUIRED TO MAINTAIN SCHEDULED TARGET DATES, AND ANY UPDATES REQUIRED.

THE BASELINE SCHEDULE WILL BE THE SOLE SOURCE OF DATA TO ANALYZE AND DETERMINE TIME ADJUSTMENTS OR CLAIM ELIGIBILITY AND/OR AMOUNT.

FAILURE TO PROVIDE OR ACCEPTABLY MAINTAIN THIS SCHEDULING REQUIREMENT SHALL BE CAUSE FOR SUSPENSION OF ALL PROGRESS PAYMENTS UNTIL THE DEFICIENCIES ARE RESOLVED TO THE SATISFACTION OF THE ENGINEER.

PRE-BID CONFERENCE

THE BIDDER IS ALSO ADVISED THAT THE DEPARTMENT WILL SCHEDULE AND CONDUCT A PRE-BID CONFERENCE PRIOR TO LETTING.

NOTIFICATION TO THE INDUSTRY WILL BE MADE WHEN A DATE IS SELECTED. THIS CONFERENCE WILL BE HELD IN THE DISTRICT 8 OFFICE AND ALL PROSPECTIVE BIDDERS ARE URGED TO ATTEND.

COORDINATION BETWEEN PROJECTS HAM-71-1.30/9.00 SECTION I AND HAM-71-2.92

IT IS ANTICIPATED CONSTRUCTION ON THE HAM-71-1.30/9.00 AND HAM-71-2.92 PROJECTS WILL OCCUR CONCURRENTLY DURING THE 1996 CONSTRUCTION SEASON. THEREFORE, THE CONTRACTOR IS DIRECTED TO ITEM 105.07 COOPERATION BETWEEN CONTRACTORS IN THE O.D.O.T. CONSTRUCTION AND MATERIALS SPECIFICATIONS AND THE FOLLOWING INFORMATION. THE CONTRACTOR SHALL INSTALL THE TRAFFIC CONTROL NECESSARY FOR THE MAINTENANCE OF TRAFFIC STAGES AS DETAILED IN THE PLANS SUCH AS TEMPORARY PAVEMENT MARKINGS, SIGNS, REMOVAL OF CONFLICTING PAVEMENT MARKINGS, ETC. MAINTENANCE OF THE TRAFFIC CONTROL WILL CONSIST OF THOSE ITEMS INSTALLED BY THIS CONTRACTOR WHETHER INSIDE OR OUTSIDE OF THE PROJECT LIMITS.

A MINIMUM OF TWO WEEKS PRIOR TO IMPLEMENTING A MAINTENANCE OF TRAFFIC SWITCH AFFECTING THE ADJACENT PROJECT, THE O.D.O.T. PROJECT ENGINEER SHALL BE NOTIFIED SO A MEETING CAN BE SCHEDULED WITH THE PROJECT ENGINEER, THE CONTRACTOR AND THE ADJACENT PROJECT'S CONTRACTOR. THE PURPOSE OF THIS MEETING IS TO ASSURE COORDINATION BETWEEN THE TWO PROJECTS IS ACHIEVED WHILE THE TRAFFIC CONTROL SWITCH IS BEING DONE AND MAINTENANCE RESPONSIBILITIES ARE DEFINED.

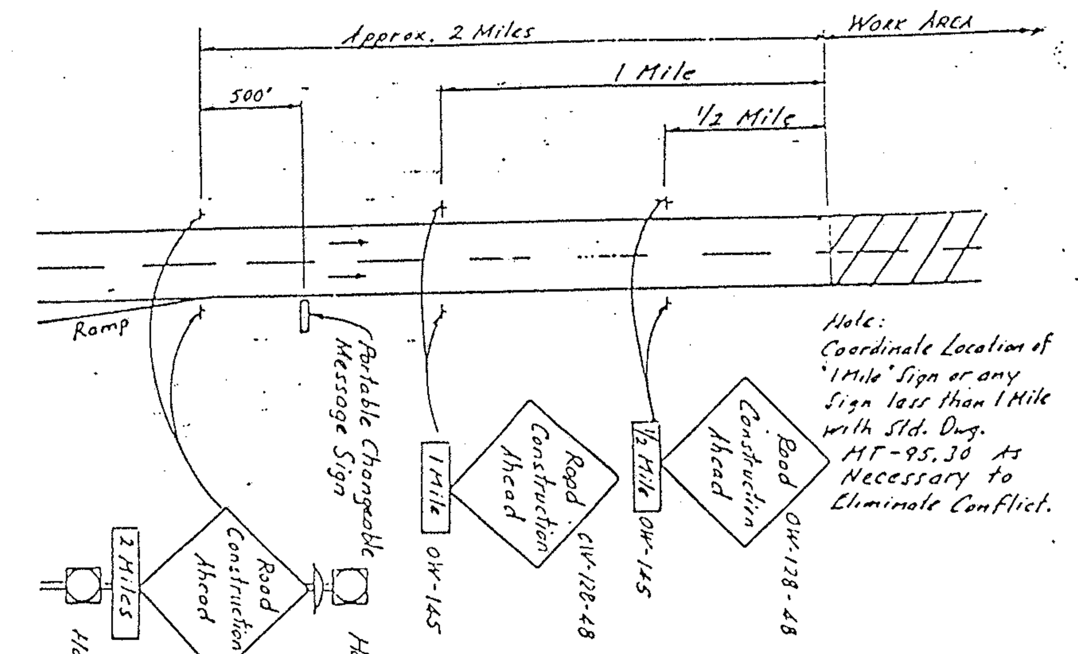
PAYMENT FOR ALL OF THE ABOVE IS TO BE INCLUDED UNDER ITEM 614 MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED IN THE PLAN.

ITEM 604, MANHOLE ADJUSTED TO GRADE, AS PER PLAN

EXISTING MANHOLES ALONG THE INSIDE SHOULDERS MUST BE ADJUSTED TO GRADE IN ORDER TO MAINTAIN TRAFFIC. PRIOR TO PLACING TEMPORARY PAVEMENT, THE EXISTING ASPHALT AROUND THE MANHOLE SHALL BE REMOVED AND THE MANHOLE ADJUSTED TO GRADE AS PER ITEM 604. CARE SHALL BE EXERCISED WHEN REMOVING THE EXISTING ASPHALT SO THAT THE EXISTING MANHOLE CASTING IS NOT DAMAGED. ANY CASTINGS DAMAGED BY THE CONTRACTOR'S OPERATION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. PAYMENT FOR THIS ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIAL NEEDED TO PERFORM THIS WORK TO THE SATISFACTION OF THE ENGINEER. AN ESTIMATED QUANTITY OF 20 EACH HAS BEEN CARRIED TO THE GENERAL SUMMARY.

ADVANCE WARNING SIGNS

THE FOLLOWING WORK AREA TRAFFIC CONTROL SIGNING SHALL BE EMPLOYED ON MAINLINE I-71 AS ADVANCE WARNING OF THE PROJECT. THE SIGNS SHALL BE COORDINATED WITH OTHER APPLICABLE CLOSURE DETAILS AS NOTED. THE ADVANCE WARNING SIGNS SHOWN SHALL BE INSTALLED AT BOTH ENDS OF THE PROJECT LOCATIONS AS SHOWN OR AS APPROVED BY THE ENGINEER. HAZARD IDENTIFICATIONS BEACONS SHALL BE IN ACCORDANCE WITH PLATE C-9 OF THE "OHIO MANUAL" AND SHALL HAVE TWO (2) HAZARD BEACONS PER LOCATION (THE USE OF TYPE B FLASHING WARNING LIGHTS IS NOT PERMITTED). COST OF PROVIDING AND MAINTAINING THESE ADVANCED WARNING SIGNS SHALL BE INCLUDED IN ITEM 614 MAINTAINING TRAFFIC. IT SHOULD BE NOTED THAT FOUR (4) SEPARATE LOCATIONS WILL BE REQUIRED DUE TO THE PROJECT BEING DIVIDED INTO TWO (2) SEPARATE SECTIONS.



ADVANCE WARNING SIGNS SCHEMATIC

ITEM 614 – WORK ZONE SPEED LIMIT SIGN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN, COVER DURING SUSPENSION OF WORK, AND REMOVE WORK ZONE SPEED LIMIT SIGNS AND SUPPORTS (R-10-48) (45 MPH) WITHIN THE WORK LIMITS IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS.

THE CONTRACTOR SHALL COVER OR REMOVE ANY EXISTING SPEED LIMIT OR MINIMUM SPEED SIGNS WITHIN THE REDUCED SPEED ZONE. THESE SIGNS SHALL BE RESTORED DURING SUSPENSION OR TERMINATION OF THE REDUCED SPEED LIMIT. THE EXPENSE OF COVERING OR REMOVAL AND RESTORATION OF EXISTING SPEED LIMIT OR MINIMUM SPEED SIGNS IS INCIDENTAL TO THE PAY ITEM FOR THE WORK ZONE SPEED LIMIT SIGNS.

THE WORK ZONE SPEED LIMIT SIGNS MAY BE ERECTED AND COVERED PRIOR TO STARTING WORK OR MAY BE ERECTED UNCOVERED NO MORE THAN 4 HOURS BEFORE THE ACTUAL START OF WORK. THE SIGNS SHALL BE REMOVED OR COVERED NO LATER THAN 4 HOURS FOLLOWING RESTORATION OF ALL LANES TO TRAFFIC WITH NO RESTRICTIONS OR SOONER AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL ERECT A WORK ZONE SPEED LIMIT SIGN IN ADVANCE OF ANY LANE RESTRICTION EXPECTED TO LAST AT LEAST 30 DAYS OR AS DIRECTED BY THE ENGINEER. THE SIGN SHALL BE MOUNTED ON BOTH SIDES OF DIVIDED HIGHWAYS, 500 FEET IN ADVANCE OF THE LANE REDUCTION TAPER. THE SIGN SHALL BE MOUNTED ON THE RIGHT SIDE, 250 FEET IN ADVANCE OF THE LANE REDUCTION TAPER ON UNDIVIDED HIGHWAYS. THE SIGN SHALL BE REPEATED, ON THE SIDE NEAREST TRAFFIC, EVERY 1 MILE FOR 55 MPH ZONES AND EVERY 1/2 MILE FOR 45 MPH ZONES. THESE SIGNS SHALL ALSO BE ERECTED IMMEDIATELY AFTER EACH ENTRANCE RAMP WITHIN THE ZONE. A SIGN TO INDICATE THE RESUMPTION OF THE STATUTORY SPEED LIMIT SHALL BE ERECTED AT THE END OF ANY REDUCED SPEED ZONE. THIS SIGN SHALL BE A R-8A.

THE CONTRACTOR MAY USE SIGNS AND SUPPORTS IN USED BUT GOOD CONDITION PROVIDED THE SIGNS MEET CURRENT ODOT SPECIFICATIONS. SIGN FACES SHALL BE REFLECTORIZED WITH TYPE G SHEETING COMPLYING WITH THE REQUIREMENTS OF 730.19 AND U.S. DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATION FOR TYPE III-C SHEETING, FP-85. WORK ZONE SPEED LIMIT SIGNS SHALL BE MOUNTED ON TWO (2) ITEM 630 GROUND MOUNTED SUPPORTS, NO. 4 POSTS.

WORK ZONE SPEED LIMIT SIGN AND SUPPORTS WILL BE MEASURED AS THE NUMBER OF SIGN INSTALLATIONS, INCLUDING THE SIGN AND NECESSARY SUPPORTS. IF A SIGN AND SUPPORT COMBINATION IS REMOVED AND REERECTED AT ANOTHER LOCATION WITHIN THE PROJECT DUE TO CHANGES IN THE SPEED ZONE DIRECTED BY THE ENGINEER, IT SHALL BE CONSIDERED ANOTHER UNIT.

PAYMENT FOR ACCEPTED QUANTITIES, COMPLETE, IN PLACE WILL BE MADE AT THE CONTRACT UNIT PRICE. PAYMENT SHALL BE FULL COMPENSATION FOR ALL MATERIALS, LABOR, INCIDENTALS AND EQUIPMENT FOR FURNISHING, ERECTION, MAINTAINANCE, COVERING DURING SUSPENSION OF WORK, AND REMOVAL OF THE SIGNS AND SUPPORTS.

PAY ITEM	UNIT	DESCRIPTION
ITEM 614	35 EACH	WORK ZONE SPEED LIMIT SIGN

MAINTENANCE OF TRAFFIC NOTES

ITEM 614 – PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN

THE CONTRACTOR SHALL FURNISH, INSTALL, MAINTAIN AND REMOVE, WHEN NO LONGER NEEDED, FIVE DIESEL POWERED CHANGEABLE MESSAGE SIGNS, ON SITE, FOR THE DURATION OF THE PROJECT. EACH SIGN SHALL BE EITHER A WINK-O-MATIC GENERATION 3, 4, 6, 10 OR 12, AMERICAN SIGNAL CO. CMS – T300 OR AN ADDCO DIGI-DOT SIGN OR A TELE-SPOT SENTINAL SIGN OR AN APPROVED EQUAL.

EACH SIGN SHALL BE TRAILER MOUNTED AND EQUIPPED WITH A FUNCTIONAL DIMMING MECHANISM TO DIM THE SIGN DURING DARKNESS AND A TAMPER AND VANDAL PROOF ENCLOSURE. EACH SIGN SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ON-SITE PERSONNEL TO OPERATE AND TROUBLE SHOOT THE UNIT. THE SIGN SHALL ALSO BE CAPABLE OF BEING POWERED BY AN ELECTRICAL SERVICE DROP FROM A LOCAL UTILITY COMPANY.

THE PROBABLE LOCATIONS AND WORK LIMITS FOR THOSE LOCATIONS ARE LISTED IN THE MAINTENANCE OF TRAFFIC NOTES. PLACEMENT, OPERATION, MAINTENANCE AND ALL ACTIVATION OF THE SIGNS BY THE CONTRACTOR SHALL BE AS DIRECTED BY THE ENGINEER. THE PCMS SHALL BE LOCATED IN A HIGHLY VISIBLE POSITION YET PROTECTED FROM TRAFFIC. THE CONTRACTOR SHALL, AT THE DIRECTION OF THE ENGINEER, RELOCATE THE PCMS TO IMPROVE VISIBILITY OR ACCOMMODATE CHANGED CONDITIONS. WHEN NOT IN USE, THE PCMS WILL BE OFF, FACING AWAY FROM ALL TRAFFIC AND SHALL DISPLAY ONE OR MORE HIGH INTENSITY YELLOW REFLECTIVE SHEETING SURFACES OF 9-INCH BY 15-INCH MINIMUM SIZE FACING TRAFFIC.

THE ENGINEER SHALL BE PROVIDED ACCESS TO EACH SIGN UNIT AND SHALL BE PROVIDED WITH APPROPRIATE TRAINING AND OPERATION INSTRUCTIONS TO ENABLE ODOT PERSONNEL TO OPERATE AND TROUBLESHOOT THE UNIT AND TO REVISE SIGN MESSAGES, IF NECESSARY.

ALL MESSAGES TO BE DISPLAYED ON THE SIGN WILL BE PROVIDED BY THE ENGINEER. A LIST OF ALL REQUIRED PREPROGRAMMED MESSAGES WILL BE GIVEN TO THE CONTRACTOR AT THE PROJECT PRECONSTRUCTION CONFERENCE. THE SIGN SHALL HAVE TWO DIFFERENT MEMORIES (PROM AND RAM) AND CAPABILITIES TO STORE UP TO 99 MESSAGES IN EACH MEMORY. SIGN MESSAGES SHALL BE LEGIBLE FROM 650 FT. MINIMUM. THE SIGN LEGEND SHALL BE CAPABLE OF BEING CHANGED IN THE FIELD. IN ORDER TO CONVEY A MAXIMUM OF INFORMATION AT A SINGLE GLANCE, ONLY THREE-LINE PRESENTATION FORMATS WITH A MAXIMUM OF SIX MESSAGES PHASES WILL BE PERMITTED. NORMALLY, ONLY A MAXIMUM OF THREE MESSAGE PHASES SHOULD BE EMPLOYED. PCMS FORMAT SHALL PERMIT THE COMPLETE MESSAGE FOR EACH PHASE TO BE READ AT LEAST ONCE.

THE PCMS SHALL CONTAIN AN ACCURATE CLOCK AND PROGRAMMING LOGIC WHICH WILL ALLOW THE SIGN TO BE ACTIVATED, DEACTIVATED OR MESSAGES CHANGED AUTOMATICALLY AT DIFFERENT TIMES OF THE DAY FOR DIFFERENT DAYS OF THE WEEK.

THE PCMS UNIT SHALL BE MAINTAINED IN GOOD WORKING ORDER BY THE CONTRACTOR IN ACCORDANCE WITH THE PROVISIONS OF 614.03 (C). THE CONTRACTOR SHALL, PRIOR TO ACTIVATING THE UNIT, MAKE ARRANGEMENTS WITH AN AUTHORIZED SERVICE AGENT FOR THE PCMS TO ASSURE PROMPT SERVICE IN THE EVENT OF FAILURE. ANY FAILURE SHALL NOT RESULT IN THE SIGN BEING OUT OF SERVICE FOR MORE THAN 12 HOURS INCLUDING WEEKENDS. FAILURE TO COMPLY MAY RESULT IN AN ORDER TO STOP WORK AND OPEN ALL TRAFFIC LANES AND/OR IN THE DEPARTMENT TAKING APPROPRIATE ACTION TO SAFELY CONTROL TRAFFIC AND THE ENTIRE COST TO CONTROL TRAFFIC ACCRUED BY THE DEPARTMENT WILL BE DEDUCTED FROM MONEYS DUE, OR TO BECOME DUE THE CONTRACTOR ON HIS CONTRACT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR 24 HOURS PER DAY OPERATION AND MAINTENANCE OF THESE SIGNS ON THE PROJECT FOR THE DURATION OF THE PHASES WHEN THE PLAN REQUIRES THEIR USE.

THE REQUIREMENT TO FURNISH, INSTALL, MAINTAIN AND REMOVE A PCMS UNIT ON THIS PROJECT SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES AS OUTLINED IN 104.04.

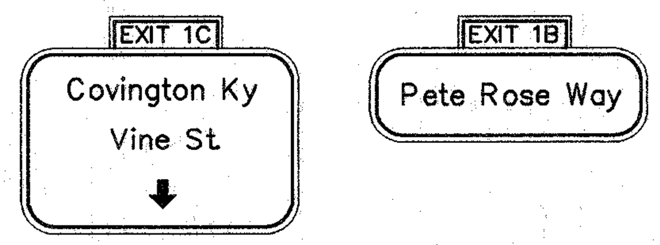
PAYMENT FOR THE ABOVE DESCRIBED ITEM SHALL BE AT THE CONTRACT UNIT PRICE BID FOR EACH ITEM 614 PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN AND SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FUELS, LUBRICATING OILS, SOFTWARE, HARDWARE AND INCIDENTALS TO PERFORM THE ABOVE DESCRIBED WORK.

ITEM 614 – PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN 5 EACH

LOCATIONS FOR PORTABLE CHANGEABLE MESSAGE SIGNS:

SECTION 1

1. EASTBOUND FORT WASHINGTON WAY IN THE MEDIAN (LEFT SIDE) ACROSS FROM AN EXISTING BOX TRUSS WHICH READS:



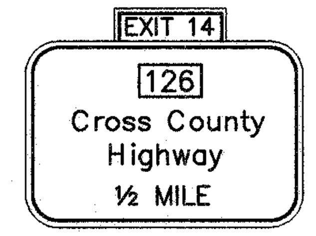
2. NORTHBOUND I-471 UNDER COLUMBIA PARKWAY BRIDGE.

3. SOUTHBOUND I-71 UNDER WOODBURN ROAD BRIDGE.

SECTION 2

1. NORTHBOUND I-71 APPROXIMATELY 250' SOUTH OF RIDGE AVENUE BRIDGE.

2. SOUTHBOUND I-71 AT AN EXISTING OVERHEAD SIGN WHICH READS:



ITEM 614 BARRIER REFLECTORS

THESE REFLECTORS AND THEIR MOUNTING SHALL CONFORM TO SUPPLEMENTAL SPECIFICATION 802 EXCEPT THAT SPACING SHALL BE AS SHOWN IN THE SUBSUMMARY TABLE ON SHEET 32.

PAYMENT

PAYMENT FOR THE ABOVE, UNLESS SPECIFIED SEPARATELY, SHALL BE AT THE LUMP SUM PRICE BID FOR ITEM 614 – MAINTAINING TRAFFIC, WHICH SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS TO COMPLETE THE ABOVE WORK.

ITEM 615 – TEMPORARY PAVEMENT, AS PER PLAN
TEMPORARY PAVEMENT, AS PER PLAN SHALL BE CONSTRUCTED OF 8" OF ITEM 301 BITUMINOUS AGGREGATE BASE, AC-20. AN ESTIMATED QUANTITY OF 10,432 SQ. YD. IS CARRIED TO THE GENERAL SUMMARY, TO BE USED AS DIRECTED BY THE ENGINEER.

ITEM 616 – PORTABLE CONCRETE BARRIER, 32 INCH

PORTABLE CONCRETE BARRIERS SHALL BE USED AT THE EDGE OF THE TRAVELED LANE PRIOR TO THE FULL DEPTH REMOVAL IN THE ADJACENT LANE. THEY SHALL BE PLACED SUCH THAT THE TRAVELED LANE HAS A MINIMUM WIDTH OF TEN (10) FEET ON MAINLINE AND TEN (10) FEET ON RAMPS. THESE BARRIERS SHALL REMAIN IN PLACE UNTIL THE WORK IN THE AREA IS COMPLETED, AS DIRECTED BY THE ENGINEER.

THE METHOD OF MEASUREMENT FOR PCB SHALL INCLUDE THE TOTAL OF EACH INDIVIDUAL PLACEMENT OF PCB REQUIRED BY THE PLANS WITHOUT REGARD TO WHETHER THE SAME SPECIFIC SECTION OF PCB COULD BE RE-USED AGAIN ON THE PROJECT. ALL PCB SHALL BE "PIN CONNECTION" TYPE.

ITEM 614 – LAW ENFORCEMENT OFFICER WITH PATROL CAR

DURING THE ERECTION/TAKE DOWN OF THE TEMPORARY TRAFFIC CONTROL DEVICES NEEDED FOR CLOSING/OPENING A LANE OR LANES TO TRAFFIC, THE CONTRACTOR SHALL PROVIDE FOR THE SERVICES OF A LAW ENFORCEMENT OFFICER WITH A PATROL CAR FOR CONTROLLING TRAFFIC AND TO PROTECT THESE WORKERS PLACING/REMOVING THE TRAFFIC CONTROL DEVICES.

PAYMENT FOR THE ABOVE WILL BE MADE UNDER "ITEM 614 – LAW ENFORCEMENT OFFICER WITH PATROL CAR."

AN ESTIMATED QUANTITY OF 600 HOURS HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

IF THE CONTRACTOR PROCURES THE SERVICES OF THE LAW ENFORCEMENT OFFICER WITH A PATROL CAR AT OTHER TIMES, THE COST SHALL NOT BE PAID FOR SEPARATELY, BUT INCLUDED IN THE COST OF ITEM 614 – MAINTAINING TRAFFIC.

ITEM SPECIAL – REPLACEMENT DRUM

DRUMS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT DRUMS SHALL BE NEW.

PAYMENT FOR THE NEW DRUMS SHALL BE MADE AT THE BID PRICE PER EACH FOR "ITEM SPECIAL – REPLACEMENT DRUM" AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED DRUM; AND PROVIDING AND MAINTAINING THE REPLACEMENT DRUM IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS FOR THE ORIGINAL DRUM.

AN ESTIMATED QUANTITY OF 1000 EACH HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

ITEM SPECIAL – REPLACEMENT SIGN

FLAT SHEET SIGNS FURNISHED BY THE CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE PLANS, SPECIFICATIONS, AND PROPOSAL WHICH BECOME DAMAGED BY TRAFFIC FOR REASONS BEYOND THE CONTROL OF THE CONTRACTOR SHALL BE REPLACED IN KIND WHEN ORDERED BY THE ENGINEER. REPLACEMENT SIGNS SHALL BE NEW. OTHER MATERIALS MAY BE IN USED BUT GOOD CONDITION SUBJECT TO APPROVAL BY THE ENGINEER.

PAYMENT FOR THE NEW SIGNS SHALL BE MADE AT THE BID PRICE PER SQUARE FOOT FOR "ITEM SPECIAL – REPLACEMENT SIGN" AND SHALL INCLUDE THE COST OF REMOVING AND DISPOSING OF THE DAMAGED SIGNS, HARDWARE AND SUPPORTS; AND PROVIDING THE NECESSARY REPLACEMENT HARDWARE, SUPPORTS, ETC.

AN ESTIMATED QUANTITY OF 500 SQUARE FEET HAS BEEN PROVIDED IN THE GENERAL SUMMARY.

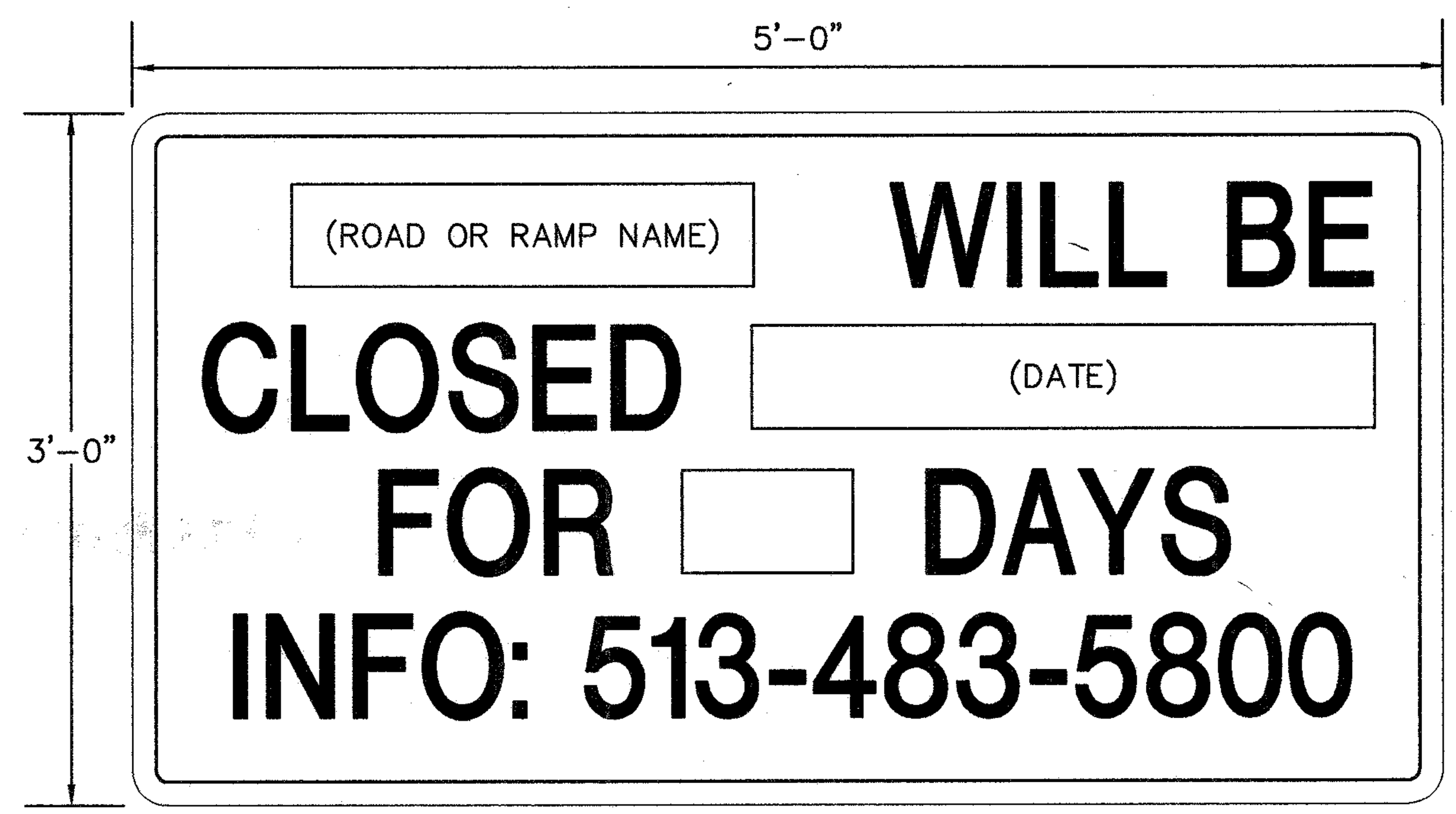
COVERING OF SIGNS

WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE COVERED, THE CONTRACTOR SHALL DO SO IN SUCH A MANNER SO AS TO AVOID DAMAGING THE PERMANENT SIGN WHEN THE COVER IS REMOVED. THE COVER SHALL BE TOTALLY OPAQUE. THE USE OF ADHESIVE TAPE APPLIED DIRECTLY TO A SIGN FACE IS STRICTLY PROHIBITED.

NOTICE OF CLOSURE SIGNS

THESE SIGNS SHALL ERECTED BY THE CONTRACTOR AT LEAST ONE WEEK IN ADVANCE OF THE SCHEDULED ROAD OR RAMP CLOSURE. THE SIGNS SHALL BE ERECTED ON THE RIGHT HAND SIDE OF THE ROAD/RAMP FACING TRAFFIC. THEY SHALL BE LOCATED IN THE FIELD SO AS NOT TO INTERFERE WITH ANY PERMANENT SIGNS. ON ROADWAYS THEY SHOULD BE ERECTED AT THE POINT OF CLOSURE. ON RAMPS THE SIGNS MAY BE ERECTED ANYWHERE ALONG IT; AS LONG AS IT IS VISIBLE TO THE MOTORISTS USING THE RAMP. ON ENTRANCE RAMPS THE SIGN SHALL BE ERECTED WELL IN ADVANCE OF THE MERGE AREA TO AVOID DISTRACTING THE MOTORISTS.

PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614 MAINTAINING TRAFFIC AND SHALL INCLUDE FURNISHING, ERECTING, MAINTAINING, AND REMOVING THE SIGNS INCLUDING SUPPORTS.



OC-60A

MAINTENANCE OF TRAFFIC NOTES

TRENCH FOR WIDENING

TRENCH EXCAVATION FOR BASE WIDENING SHALL BE ONLY ONE SIDE OF THE PAVEMENT AT A TIME. THE OPEN TRENCH SHALL BE ADEQUATELY MAINTAINED AND PROTECTED WITH DRUMS OR BARRICADES AT ALL TIMES. PLACEMENT OF PROPOSED SUBBASE AND BASE MATERIAL SHALL FOLLOW AS CLOSELY AS POSSIBLE BEHIND THE EXCAVATION OPERATIONS. THE LENGTH OF WIDENING TRENCH WHICH IS OPEN AT ANY ONE TIME SHALL BE HELD TO MINIMUM AND SHALL AT ALL TIMES BE SUBJECT TO APPROVAL OF THE ENGINEER.

ITEM 614 --TEMPORARY IMPACT ATTENTUATOR (G.R.E.A.T. TYPE)

THIS WORK SHALL CONSIST OF FURNISHING IMPACT ATTENUATORS AS REQUIRED IN THE PLANS. THIS ITEM SHALL INCLUDE ALL RELATED HARDWARE, NOT SEPARATELY SPECIFIED, AS REQUIRED BY THE MANUFACTURER TO CONSTRUCT COMPLETE AND FUNCTIONAL G.R.E.A.T. IMPACT ATTENUATOR SYSTEMS. THE ATTENUATORS SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND AT THE LOCATIONS SHOWN ON THE PLANS. THE IMPACT ATTENUATOR SHALL BE MANUFACTURED BY THE ENERGY ABSORPTION SYSTEMS, INC., ONE EAST WACKER DRIVE, CHICAGO, ILLINOIS 60601; TELEPHONE: (312) 467-6750.

THE NOSE COVER OF THE ATTENUATOR SHALL BE MARKED WITH EVENLY SPACED FOUR (4) INCH WIDE HORIZONTAL STRIPES OF WHITE REFLECTIVE MATERIAL MEETING THE REQUIREMENTS OF CMS 730.19.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSPECTION, REPAIRING, AND OTHERWISE RESTORING THE IMPACT ATTENUATOR IN ACCORDANCE WITH THE MANUFACTURER'S MAINTENANCE INSTRUCTIONS WHILE IT IS IN USE ON THE PROJECT. SUCH REPAIRS SHALL BE PERFORMED WITHIN 12 HOURS OF THE INCIDENT WHICH CAUSED DAMAGE TO THE PROJECT. IN ADDITION TO ONE EXTRA UNIT SUPPLIED FOR THIS PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING ALL NECESSARY MATERIALS, LABOR AND EQUIPMENT REQUIRED TO PERFORM THE ABOVE DESCRIBED RESTORATION OF THE ATTENUATOR.

AN ESTIMATED QUANTITY AS LISTED BELOW SHALL BE USED AS DIRECTED BY THE ENGINEER FOR USE IN THE ABOVE MENTIONED RESTORATION ONLY WHEN IT IS DECIDED THAT MINOR OR MAJOR REPAIRS CANNOT BE PERFORMED IN A SAFE AND TIMELY MANNER:

ITEM 614 --TEMPORARY IMPACT ATTENUATOR, (G.R.E.A.T. TYPE), MODEL NO. 200200NF6GCZ, 16 EACH

ITEM SPECIAL--REMOVE & REPLACE IMPACT ATTENUATOR, 14 EACH

ITEM 614 --IMPACT ATTENUATOR, G.R.E.A.T. TYPE (REPLACEMENT), MODEL NO. 200200NF6GCZ, 1 EACH

FOR THE LOCATIONS OF THE ATTENUATORS SEE PLAN SHEETS 43-47, 51, 53, 60, 63, 64, 70, 73, 74.

PAYMENT FOR THE ABOVE WORK SHALL BE MADE AT THE UNIT PRICE BID FOR EACH, ITEM SPECIAL, IMPACT ATTENUATOR AND SHALL BE CONSIDERED FULL PAYMENT FOR FURNISHING, INSTALLING AT THE SPECIFIED LOCATIONS, RESTORATION AFTER EACH VEHICLE IMPACT, REMOVAL (IF A TEMPORARY INSTALLATION), INSTALLATION AND REMOVAL (TEMPORARY-FOR SUBSEQUENT PHASING), INCLUDING ALL LABOR, TOOLS, EQUIPMENT AND MISCELLANEOUS HARDWARE AND MATERIALS NECESSARY TO COMPLETE THIS ITEM OF WORK.

PAYMENT

PAYMENT FOR ALL THE MAINTENANCE OF TRAFFIC EXCEPT FOR ITEMS DESIGNATED "ITEM 614 TEMPORARY PAVEMENT MARKINGS," "ITEM 615, TEMPORARY PAVEMENT AS PER PLAN," "ITEM 616, WATER," ITEM 622, PORTABLE CONCRETE BARRIER, 32 INCH" "ITEM SPECIAL, LAW ENFORCEMENT OFFICER WITH PATROL CAR," ITEM SPECIAL, REPLACEMENT SIGNS," AND "ITEM SPECIAL, REPLACEMENT DRUMS," SHALL BE INCLUDED IN THE LUMP SUM "ITEM 614, MAINTAINING TRAFFIC." ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY.

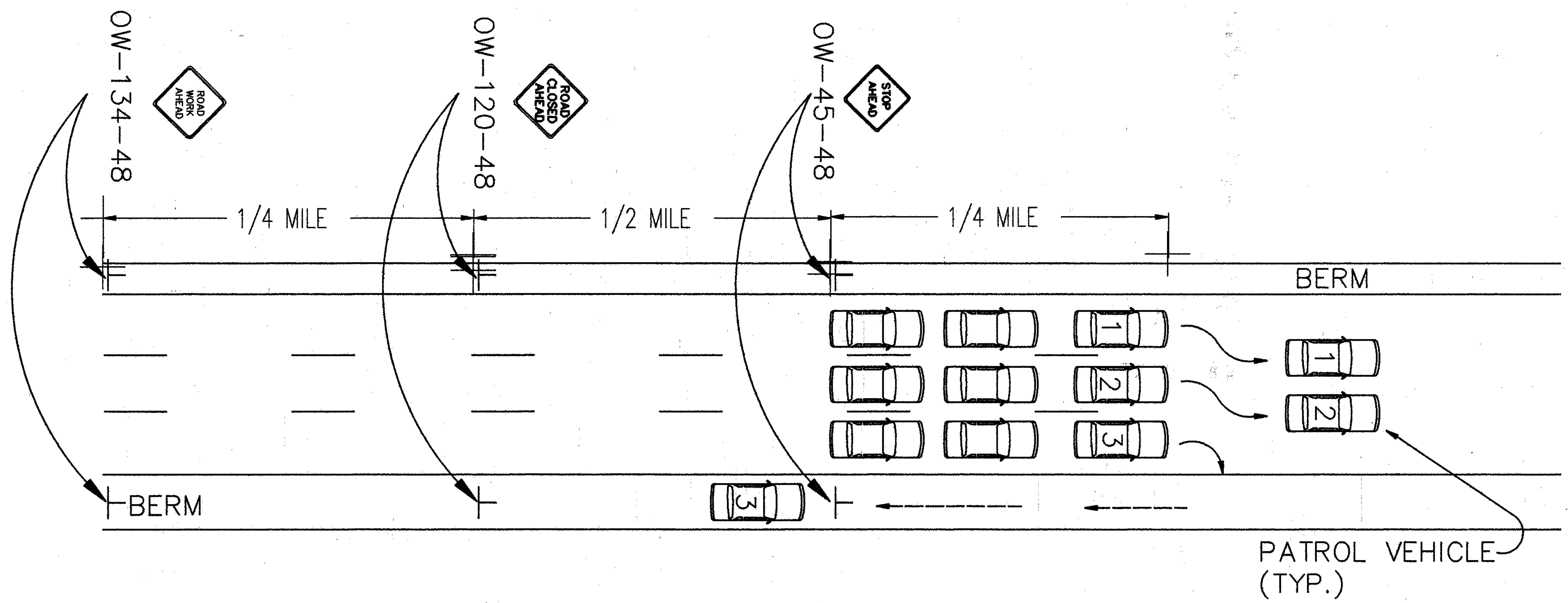
PROCEDURE FOR ERECTING OVERHEAD SIGN SUPPORTS

ERECTION OF SPAN TYPE OR LENGTHENING OF EXISTING SPAN TYPE SHALL BE ACCOMPLISHED IN SUCH A MANNER THAT COMPLETE STOPPAGE ON ALL LANES OF ANY DIRECTIONAL ROADWAY IS NOT MORE THAN FIFTEEN (15) MINUTES IN ANY ONE (1) CONSECUTIVE THIRTY (30) MINUTE PERIOD.

A MINIMUM OF ONE (1) LAW ENFORCEMENT PATROL VEHICLE PER LANE SHALL BE USED TO PACE MOTORISTS TO A STOP. AFTER TRAFFIC HAS BEEN STOPPED, ONE (1) PATROL VEHICLE SHALL TRAVEL ALONG THE ROADWAY SHOULDER 500 FEET BEHIND THE BACKUP OF STOPPED VEHICLES. WHERE STOPPAGE OCCURS IN THE VICINITY OF FREEWAY ENTRANCES, THE CONTRACTOR SHALL PLACE A FLAGGER ON THE RAMPS TO STOP TRAFFIC. PATROL VEHICLES SHALL HAVE HIGH-RISE FLASHING BEACONS TO PROVIDE ADEQUATE VISIBILITY TO APPROACHING MOTORISTS. WHEN THE ENGINEER DEEMS APPROPRIATE, THE CONTRACTOR SHALL ERECT AND MAINTAIN "ROAD CLOSED AHEAD" AND "STOP AHEAD" SIGNS WITH FLASHING TWELVE INCH (12") TRAFFIC SIGNAL HEADS IN ACCORDANCE WITH 632.05. PATROL VEHICLES AND SIGNS SHALL BE LOCATED IN ACCORDANCE WITH THE FOLLOWING SKETCH.

NOISE ORDINANCE

IN COMPLIANCE WITH THE CITY OF CINCINNATI NOISE ORDINANCE, THE CONTRACTOR SHALL OBTAIN FROM THE CITY OF CINCINNATI A PERMIT TO WORK BETWEEN THE HOURS OF 11:00 PM AND 7:00 AM OF ANY DAY.



TYPICAL SHORT DURATION CLOSURE

Short Duration Closures shall only occur between the hours of 7:00 AM to 11:00 AM on Sunday.

MAINTENANCE OF TRAFFIC NOTES

PORTABLE CONCRETE BARRIER, 32", CHART

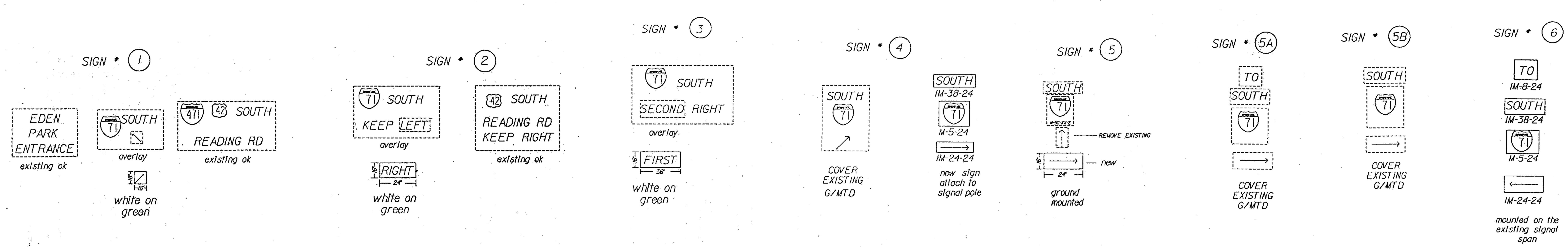
SHEET NO.	ROADWAY	DIRECTION	STAGE	STATION FROM	STATION TO	LENGTH	TAPER LENGTH	TOTAL LENGTH
	SECTION 1							
43	I-71	NB	2 & 3	135+78	164+70	2892'	170'	3062'
44	I-471	NB	2 & 3	158+85	164+70	585'	155'	740'
46	I-71	NB	2 & 3	185+50	199+78	1528'	180'	1708'
46	RAMP RD	NB	2 & 3	185+00	199+78	1478'	180'	1658'
43	I-71	SB	2 & 3	133+45	163+90	3045'	185'	3230'
44	I-471	SB	2 & 3	161+60	163+10	150'	172'	322'
46	I-71	SB	2 & 3	185+27	197+00	1173'	180'	1294'
47	RAMPS RA & GA	SB	2 & 3	195+40	196+98	158'	180'	338'
						SUBTOTAL		12352'
								X 2
								24704'
47	I-71	SB	2	195+60	197+00	140'	235'	375'
45	I-71	SB	3	195+64	–	–	185'	185'
					TOTAL SECTION 1			25264'
	SECTION 2							
60	I-71	NB	1	466+22	470+72	450'		450'
60	I-71	NB	1	467+84	469+87	203'		203'
60	RAMP B	NB	1	0+47	4+95	448'	135'	583'
60	I-71	SB	1	466+45	471+23	478'	180'	658'
60	I-71	SB	1	466+48	469+87	339'		339'
60	RAMP A	SB	1	17+83	22+63	480'	45'	525'
63	I-71	NB	1	517+62	524+29	667'		667'
63	I-71	NB	1	517+62	522+12	450'		450'
63	RAMP F	NB	1	1+43	7+35	592'	135'	727'
64	I-71	SB	1	519+05	524+79	574'	180'	754'
70	I-71	NB	2	466+22	470+72	450'	180'	630'
70	I-71	NB	2	469+00	469+85	85'		85'
70	RAMP B	NB	2	3+43	4+91	148'		148'
70	I-71	SB	2	466+45	471+23	478'	180'	658'
70	RAMP A	SB	2	17+94	19+41	147'		147'
73	I-71	NB	2	518+00	524+29	629'	180'	809'
74	RAMP F	NB	2	5+82	7+37	155'	58'	213'
75	I-71	SB	2	519+05	524+79	574'	180'	754'
					TOTAL SECTION 2			8800'
				ITEM 622 PORTABLE CONCRETE BARRIER				
				TOTAL CARRIED TO GENERAL SUMMARY				34064'

614 BARRIER REFLECTORS & OBJECT MARKERS

STAGE	STATIONING (FROM-TO) (SIDE)	SPACING	TYPE A	TYPE B W	TYPE B Y	OBJECT MARKERS EACH	REMARKS
	SECTION 1						
2	134+08 – 164+70 NB	25'		124		124	
2	157+30 – 164+70 NB	25'			31	31	
2	183+70 – 199+78 NB	25'		66		66	
2	183+20 – 199+78 NB	25'			68	68	
2	133+45 – 165+75 SB	25'		131		131	
2	161+60 – 164+82 SB	25'			14	14	
2	185+27 – 198+80 SB	25'		56		56	
2	195+60 – 199+35 SB	25'			16	16	
2	195+40 – 198+78 SB	25'		15		15	
	SECTION 1						
3	134+08 – 164+70 NB	25'			124	124	
3	157+30 – 164+70 NB	25'		31		31	
3	183+70 – 199+78 NB	25'			66	66	
3	183+20 – 199+78 NB	25'		68		68	
3	133+45 – 165+75 SB	25'			131	131	
3	161+60 – 164+82 SB	25'		14		14	
3	186+40 – 199+34 SB	25'			56	56	
3	195+64 – 197+49 SB	25'		9		9	
3	195+40 – 198+78 SB	25'			15	15	
	SECTION 1 TOTAL			1035		1035	
	SECTION 2						
1	466+22 – 470+72 NB	25'		20		20	
1	467+84 – 469+87 NB	25'			10	10	
1	–0+88 – 4+95 NB	25'		25		25	
1	466+45 – 473+03 SB	25'		28		28	
1	466+48 – 469+87 SB	25'			15	15	
1	17+38 – 22+63 SB	25'		23		23	
1	517+62 – 524+29 NB	25'		28		28	
1	517+62 – 522+12 NB	25'			20	20	
1	0+08 – 7+35 NB	25'		31		31	
1	519+05 – 526+59 SB	25'		32		32	
2	464+42 – 470+72 NB	25'			27	27	
2	469+00 – 469+85 NB	25'		5		5	
2	3+43 – 4+91 NB	25'			7	7	
2	466+45 – 473+03 SB	25'			28	28	
2	17+94 – 19+41 SB	25'			7	7	
2	516+20 – 524+29 NB	25'			34	34	
2	5+24 – 7+37 NB	25'			10	10	
2	519+05 – 526+59 SB	25'			32	32	
				382		382	
	TOTALS			1417		1417	

THIS TOTAL HAS BEEN CARRIED TO THE GENERAL SUMMARY

COVERING OF EXISTING SIGNS FOR CLOSING OF RAMPS RB AND RF — TYPICAL FOR SECTION 1, STAGE 1, STAGE 2, AND STAGE 3



MAINTENANCE OF TRAFFIC NOTES

TEMPORARY PAVEMENT, AS PER PLAN SECTION 1

STATIONS	WIDTH	AREA
NORTHBOUND INSIDE SHOULDER		
STA.135+64 TO STA.139+33	5'	205 S.Y.
STA.150+22 TO STA.159+46	5'	513 S.Y.
STA.162+75 TO STA.174+50	5'	653 S.Y.
STA.183+07 TO STA.186+44	10'	374 S.Y.
STA.198+52 TO STA.223+00	10'	2720 S.Y.
NORTHBOUND OUTSIDE SHOULDER		
STA.135+92 TO STA.139+33	10'	379 S.Y.
STA.150+22 TO STA.153+20	7'	232 S.Y.
STA.153+20 TO STA.154+70	7'-10'	142 S.Y.
STA.154+70 TO STA.158+58	10'	431 S.Y.
STA.164+77 TO STA.167+00	7'	173 S.Y.
STA.167+00 TO STA.168+60	7'-10'	151 S.Y.
STA.168+60 TO STA.170+55	10'	217 S.Y.
RAMP GD STA.165+04 TO STA.185+00	10'	2218 S.Y.
SOUTHBOUND INSIDE SHOULDER		
STA.151+60 TO STA.157+68	5'	338 S.Y.
STA.164+77 TO STA.178+50	5'	763 S.Y.
STA.180+54 TO STA.186+25	5'	317 S.Y.
STA.197+55 TO STA.223+00	5'	2828 S.Y.
SOUTHBOUND OUTSIDE SHOULDER		
STA.133+55 TO STA.137+45	10'	433 S.Y.
STA.151+60 TO STA.156+98	10'	598 S.Y.
STA.168+85 TO STA.186+25	10'	1933 S.Y.
STA.203+64 TO STA.225+00	10'	2373 S.Y.
		TOTAL: 17991 S.Y.

SECTION 1 TOTAL CARRIED TO GENERAL SUMMARY

TEMPORARY PAVEMENT, AS PER PLAN SECTION 2

STATIONS	WIDTH	AREA
NORTHBOUND OUTSIDE SHOULDER		
STA.426+38 TO STA.462+90	10'	4058 S.Y.
STA.470+00 TO STA.486+27	10'	1808 S.Y.
STA.524+40 TO STA.554+76	10'	3373 S.Y.
SOUTHBOUND OUTSIDE SHOULDER		
STA.427+60 TO STA.465+30	10'	4189 S.Y.
STA.471+69 TO STA.495+03	10'	2593 S.Y.
STA.513+50 TO STA.557+20	10'	4855 S.Y.
RAMP B STA.4+75 TO STA.14+70	3'	332 S.Y.
RAMP C STA.3+30 TO STA.16+00	3'	423 S.Y.
RAMP C STA.22+14 TO STA.26+81	3'	156 S.Y.
RAMP D STA.5+26 TO STA.13+90	3'	288 S.Y.
RAMP E STA.2+79 TO STA.9+50	3'	223 S.Y.
		TOTAL: 22298 S.Y.

SECTION 2 TOTAL CARRIED TO GENERAL SUMMARY

ITEM 614 TEMPORARY CURB MARKING

This item shall consist of painting the existing curb reveal, as shown on Sheet 33, with yellow traffic paint according to Standard Drawing MT-99.10 and Items 614, 641, and 642 of the Specifications.

RESURFACING OPERATIONS

Prior to commencing resurfacing operations, the Contractor shall reference both edges of the mainline and ramp traveled pavement on both sides of the roadway in a manner satisfactory to the Engineer. Mainline pavement shall be referenced a maximum of 1,000 feet in tangent sections and 200 feet in curve sections.

Ramp pavement shall be referenced a maximum of 200 feet in tangent sections and 50 feet in curve sections. These referenced points shall be used to reestablish the traveled lanes during and at the conclusion of the resurfacing operations to provide the necessary control for pavement marking layout.

All material used in referencing the above shall be removed at the completion of the work.

The application of Item 407 - Tack Coat will not be permitted until just prior to placing the base course. Traffic shall not be permitted on any tacked areas.

Traffic shall not be maintained on a lane adjacent to a shoulder during resurfacing operations unless the leveling course or surface course has been placed on both lane and shoulder. The surface course cannot be placed on a lane until the intermediate course and/or base courses have been placed on the adjacent lane and shoulder.

Temporary pavement wedges shall be provided at all times where traffic is required to travel from or onto a pavement surface of different elevation. These wedges shall be removed prior to placing the specified pavement courses. The minimum slope of the temporary pavement wedges shall be 1" per foot along longitudinal joints and 25:1 at transverse joints. Cost for these wedges shall be included in Item 614, Maintaining Traffic.

ESTIMATED QUANTITIES - TEMPORARY PAVEMENT MARKINGS

ITEM	UNIT	SECTION 1					SECTION 2			TOTAL QUANTITY	DESCRIPTION
		STAGE 1	STAGE 2	STAGE 2A	STAGE 3	STAGE 4	STAGE 1	STAGE 2	STAGE 3		
614	MILE	-	2.50	0.57	3.00	2.50	4.63	5.03	4.63	22.86	TEMPORARY LANE LINE, CLASS I
614	MILE	-	0.24	1.19	0.22	0.25	0.18	0.20	0.18	2.46	TEMPORARY LANE LINE, CLASS I, 740.05 TYPE C
614	MILE	0.15	-	0.57	4.74	5.40	7.56	6.62	7.56	32.60	TEMPORARY WHITE EDGE LINE, CLASS I
614	MILE	0.04	0.42	1.17	0.50	0.40	0.56	0.20	0.56	3.85	TEMPORARY WHITE EDGE LINE, 740.05 TYPE C
614	MILE	3.06	-	0.57	5.49	4.80	2.04	8.11	2.04	26.11	TEMPORARY YELLOW EDGE LINE, CLASS I
614	MILE	0.48	0.65	1.17	0.32	0.70	-	0.20	-	3.52	TEMPORARY YELLOW EDGE LINE, CLASS I, 740.05 TYPE C
614	LIN.FT.	1075	3104	-	-	3100	2896	2133	2896	15204	TEMPORARY CHANNELIZING LINE, CLASS I
614	LIN.FT.	212	1582	-	2795	1580	-	-	-	6169	TEMPORARY CHANNELIZING LINE, CLASS I, 740.05 TYPE C
614	MILE	-	-	-	0.05	-	-	-	-	0.05	TEMPORARY CENTER LINE, CLASS I, 740.05 TYPE C
614	MILE	-	5.39	-	-	-	-	-	-	5.39	TEMPORARY WHITE EDGE LINE, CLASS I, AS PER PLAN
614	MILE	-	4.81	-	-	-	-	-	-	4.81	TEMPORARY YELLOW EDGE LINE, CLASS I, AS PER PLAN
614	MILE	-	2.50	-	-	-	-	-	-	2.50	TEMPORARY CURB MARKING

THESE QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY

EXISTING PAVEMENT MARKINGS

If during the duration of the contract, the Contractor has to alter the pavement markings outside the project limits, they shall be required to replace all such markings with the same material; or, if the State or any other maintaining agency is called to suspend painting operation due to the existing construction, the Contractor shall be required to repaint the existing pavement markings which the maintaining agency was unable to paint. Payment for this work shall be included under the appropriate pavement marking pay item.

ITEM 614 TEMPORARY EDGE LINE, CLASS I, AS PER PLAN

This item shall conform to Standard Drawing MT-99.10 and Item 614 of the Specifications, except that the edge line shall be 6" in width.

MAINTENANCE OF TRAFFIC NOTES

HAM-71-1.30/9.00

32B
401

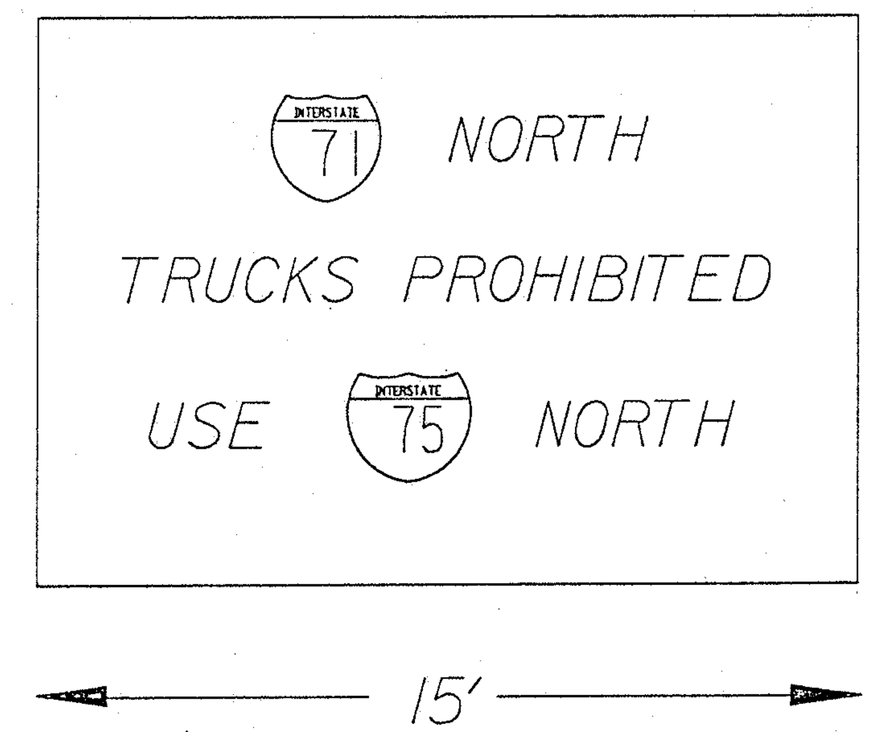
ITEM 630 SIGNING,MISC: EXTRU-SHEET SIGNS, FURNISH ONLY

THE FOLLOWINNG EXTRU-SHEET SIGNS SHALL BE
FURNISHED BY THE CONTRACTOR AND DELIVERED
TO THE OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 8 TRAFFIC DEPARTMENT
505 SOUTH SR 741
LEBANON, OHIO 45036
1-800-831-2142 EXT. 285 MR. JOHN DIX BROWN

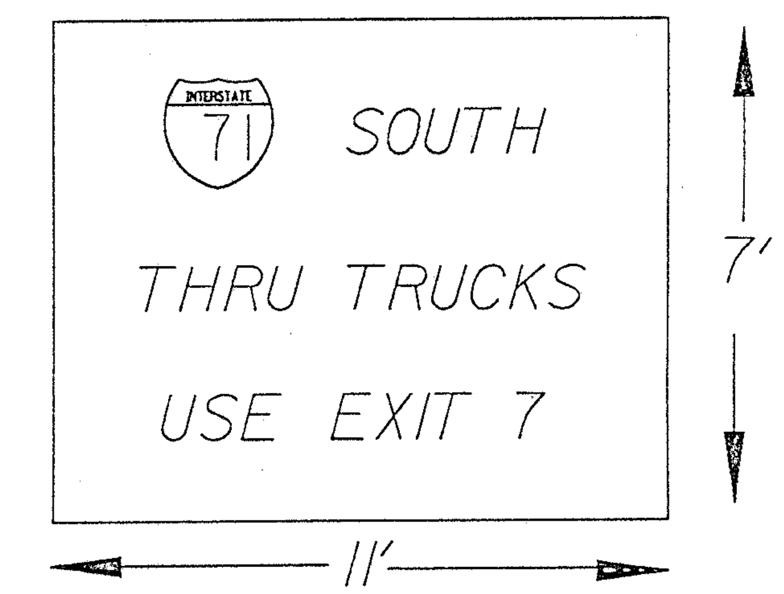
ALL SIGNS SHALL BE BLACK LETTERS ON A WHITE BACKGROUND WITH 10 INCH LETTERS, AND 36INCH INTERSTATE SHIELDS, WITH A 1 INCH BORDER. THESE SIGNS SHALL BE DELIVERED TO DISTRICT 8 HEADQUARTERS (SEE ADDRESS ABOVE) NO LATER THAN DECEMBER 15,1995.

ALL SIGNS SHALL BE TYPE G REFLECTIVE SHEETING

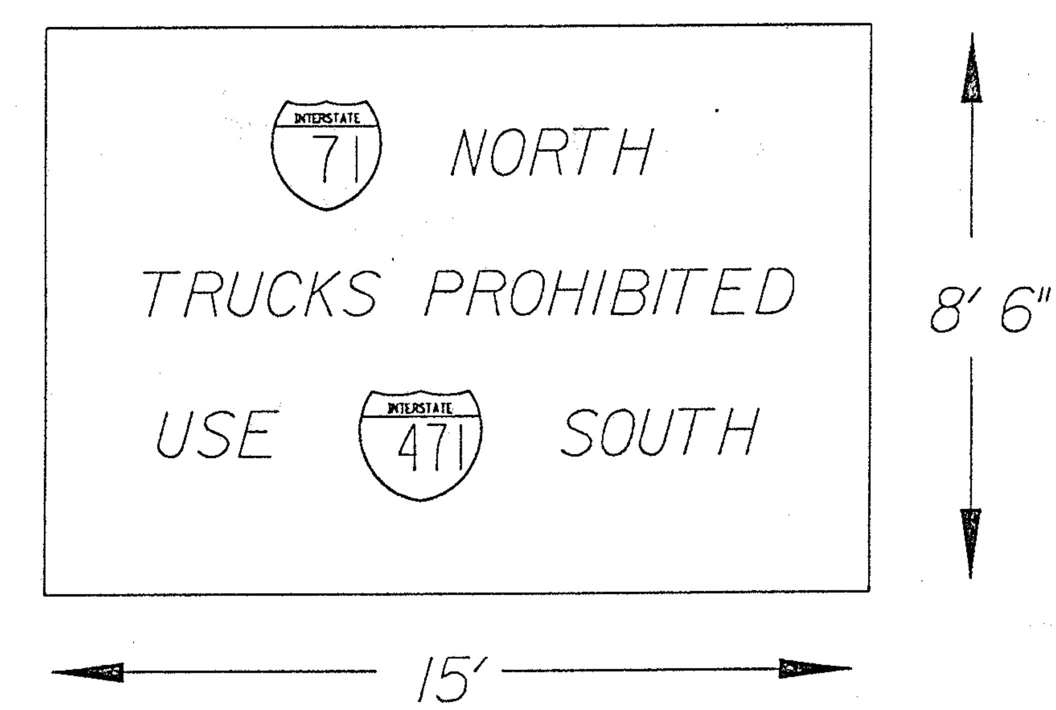
3536.0 S.F. EXTRU-SHEET SIGNS



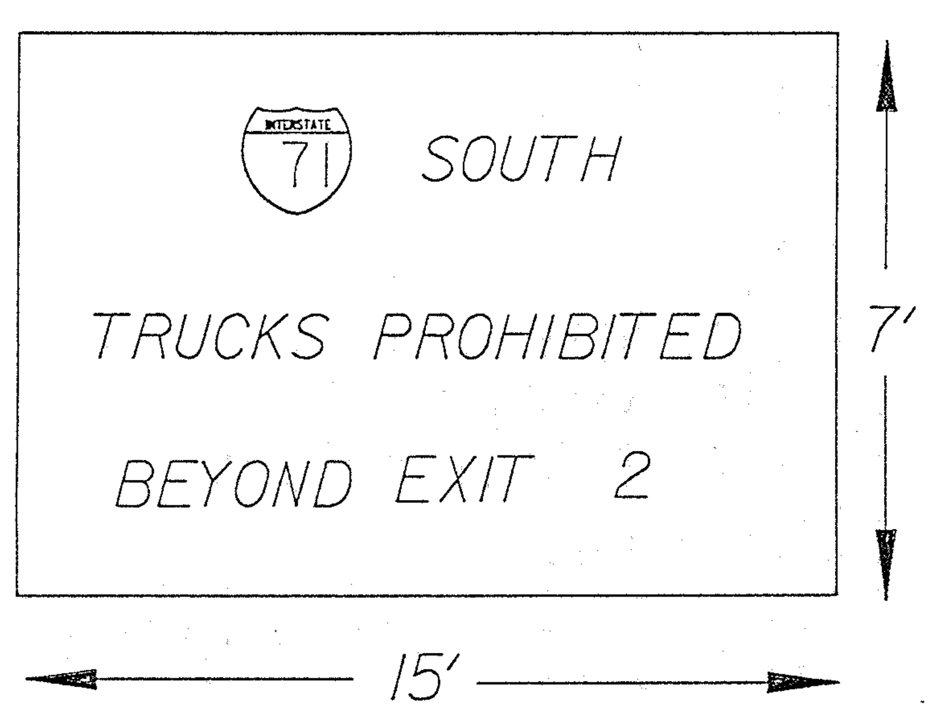
12 EACH



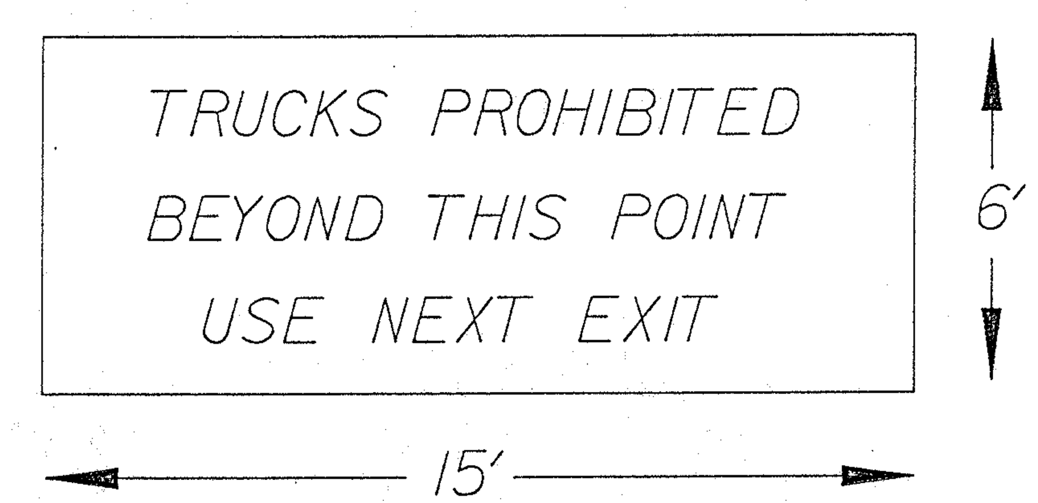
4 EACH



5 EACH



9 EACH



1 EACH

MAINTENANCE OF TRAFFIC NOTES

HAM-71-1.30/9.00

32C
401

ITEM 630 SIGNING, MISC.: TEMPORARY OVERLAY SIGNS, FURNISH ONLY

THE FOLLOWING OVERLAYS SHALL BE FURNISHED
BY THE CONTRACTOR AND DELIVERED TO THE
OHIO DEPARTMENT OF TRANSPORTATION
DISTRICT 8 TRAFFIC DEPARTMENT
505 SOUTH SR 741
LEBANON, OHIO 45036
1-800-831-2142 EXT.285 MR JOHN DIX BROWN

THESE SIGNS SHALL BE DELIVERED TO DISTRICT 8 HEADQUARTERS (SEE ADDRESS ABOVE) NO LATER THAN DECEMBER 15, 1995.

697.30 S.F. OVERLAYS (BLACK LETTERS ON WHITE BACKGROUND)

ALL SIGNS SHALL BE TYPE G REFLECTIVE SHEETING

INTERSTATE 71 SOUTH
THRU TRUCKS
USE WEST I-275

8'
20'

10" LETTERS
SHIELD SIZE 36"
BLACK ON WHITE
WITH BORDER
2 EACH

I-71 SOUTH
THRU TRUCKS
USE WEST I-275

4' 6"
10'

8" LETTERS
BLACK ON WHITE
WITH BORDER
1 EACH

I-71 SOUTH
THRU TRUCKS
USE EXIT 7

4' 6"
11'

10" LETTERS
BLACK ON WHITE
WITH BORDER
1 EACH

I-71 SOUTH
THRU TRUCKS
USE WEST I-275

4' 6"
14'

8" LETTERS
BLACK ON WHITE
WITH BORDER
2 EACH

INTERSTATE 71 SOUTH
THRU TRUCKS
USE WEST I-275

9'
17'

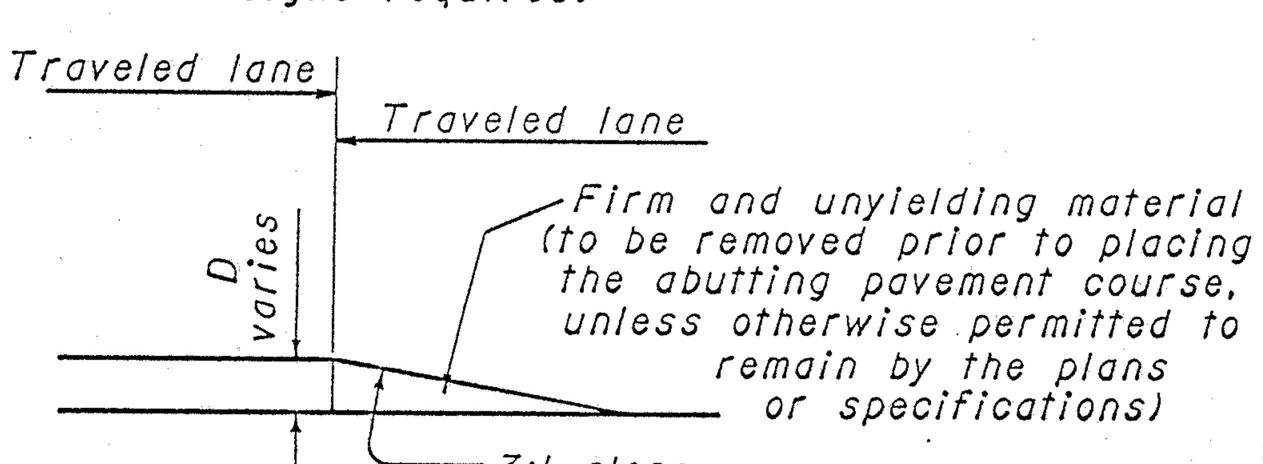
12" LETTERS
BLACK ON WHITE
WITH BORDER
1 EACH

GENERAL NOTES

1. It is intended that this drawing be used for treatment of drop-offs that develop during construction operations, and that are not otherwise provided for in the construction plans. Where the plans do not provide specific items for labor, equipment, or materials to implement the drop-off treatments specified hereon, they shall be included for payment in the lump sum bid for Item 614 - Maintaining Traffic.
2. While the need for certain advisory signing is noted hereon, it is not intended that this be indicative of all signing that may be required to advise or warn motorists, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) must be fulfilled.
3. In urban or otherwise heavily developed areas where pedestrians and/or bicyclists may be present in significant numbers, additional signing and protective measures other than those shown hereon may be required.
4. The drop-off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.
5. Where concrete barrier is specified, it shall be in accordance with Standard Construction Drawing MC-9.2 and Item 622.
6. When drums are specified for a dropoff condition, a minimum number of four drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD.
7. When OW-151 (Low Shoulder) signs or OW-171 (Uneven Lanes) and OWP-171 signs are required, they shall be placed 750' in advance of the condition, on all intersecting entrance ramps within the limits of the condition and immediately beyond all intersecting roadways within the limits of the condition. When the dropoff condition extends more than one-half mile, additional signs should be erected at intervals of one mile or less.
8. For locations, such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate any difference in elevation between pavements, a 3:1 slope treatment similar to the Optional Wedge Treatment shall be provided.
9. Portable concrete barrier shall be placed on the same level as the traffic surface and shall not encroach on lane width(s) designated as the minimum required for traffic use. Where drums are used, and their presence would reduce traveled lane widths to less than 10', drums may be placed on the opposite level from that of traffic provided the dropoff depth does not exceed 5" and approval is granted by the Project Engineer.
10. Pavement Repairs (or similar work):
    a. Lengths greater than 60 feet - utilize appropriate treatment from Condition I.
    b. Lengths of 60 feet or less - repairs shall be effected in accordance with 255.08. Drums may be used as a separator adjacent to the traveled lane.

OPTIONAL WEDGE TREATMENT
(MILLING OR RESURFACING)

1. This treatment may be used when permitted for Condition I only.
2. OW-171 and OWP-171 signs required.

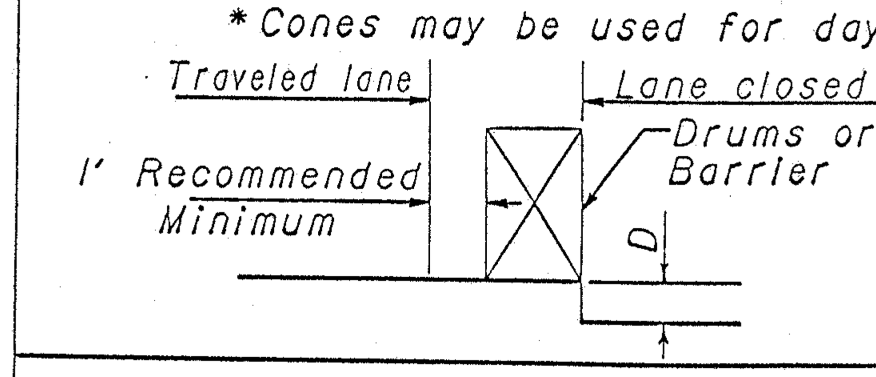


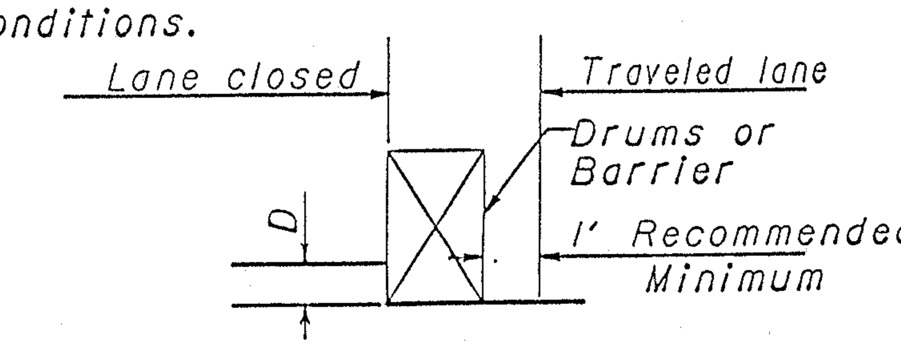
CONDITION I
DROPOFFS BETWEEN TRAVELED LANES

1. These treatments are to be used for resurfacing, pavement planing, excavation, etc. between or within traveled lanes.

D (In.)	Treatment
≤1½	Erect OW-171 and OWP-171 signs.
>1½-3	1) Lane closure utilizing drums* as shown below OR 2) Optional Wedge Treatment
>3-5	Lane closure utilizing drums as shown below.
>5	Lane closure utilizing portable concrete barrier as shown below.

*Cones may be used for daytime only conditions.



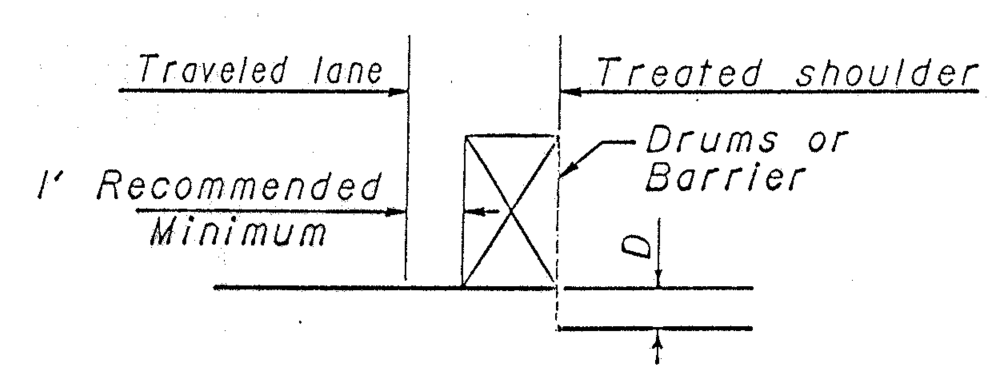


CONDITION II
DROPOFFS WITHIN GRADED SHOULDER AREA

1. The treatments indicated below are for use in conjunction with resurfacing, planing, or excavations within the graded shoulder area.
2. The graded shoulder area is that flat or gradually sloping area between the edge of a normally traveled lane and the more steeply sloping ditch foreslope or embankment slope. Its surface may be soil or turf, and/or it may be inclusive of a "treated" area (improved with aggregates, asphaltic materials, or concrete). For the purposes herein, its maximum width shall be considered to be twelve (12) feet.

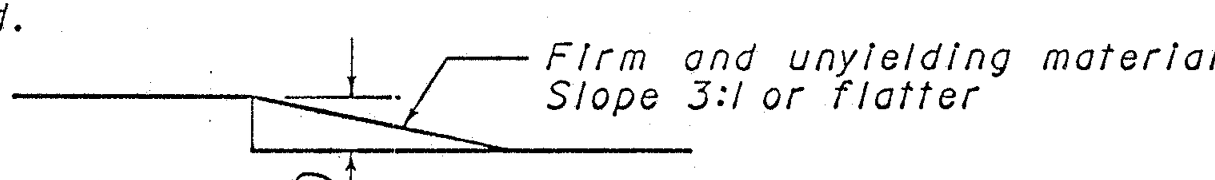
D (In.)	Treatment
≤1½	1) If edgelines are present, no treatment necessary OR 2) Erect OW-171 and OWP-171 signs.
>1½-5	1) If min. lane width* requirements can be met, maintain lanes utilizing drums as shown below OR 2) If min. lane width* requirements cannot be met, close adjacent lane utilizing drums OR 3) Optional Shoulder Treatment.
>5-12 Daylight only	If min. lane width* requirements can be met, maintain lanes utilizing drums as shown below.
>5-24	1) If min. lane width* requirements can be met, maintain lanes utilizing portable concrete barrier as shown below. OR 2) If min. lane width* requirements cannot be met, close adjacent lane utilizing drums.
>24	Lane closure utilizing portable concrete barrier as shown below.

*Minimum lane widths shall be 10' unless otherwise specified in the plans.



OPTIONAL SHOULDER TREATMENT

1. This treatment may not be used within a bituminous shoulder where a hot longitudnal joint per 401.15 is required.
2. OW-151 signs required.

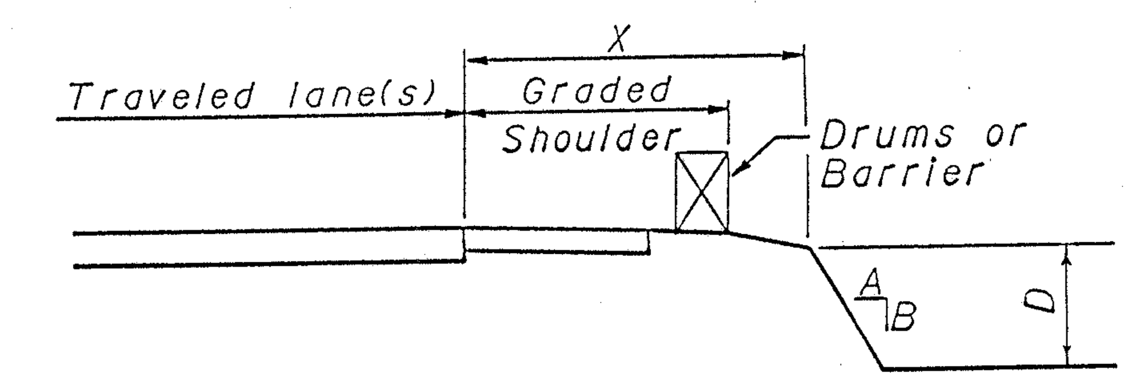


CONDITION III
DROPOFFS BEYOND GRADED SHOULDER OR BACK OF CURB

1. See Note 2 under Condition II.
2. Use Chart A or B below, as applicable.

CHART A

USE FOR:
1. Uncurbed Facilities.
2. Curbed Facilities, where:
   a. Curbs are less than 6" in height.
   b. Curbs are 6" or greater in height and the legal speed is greater than 40 mph.

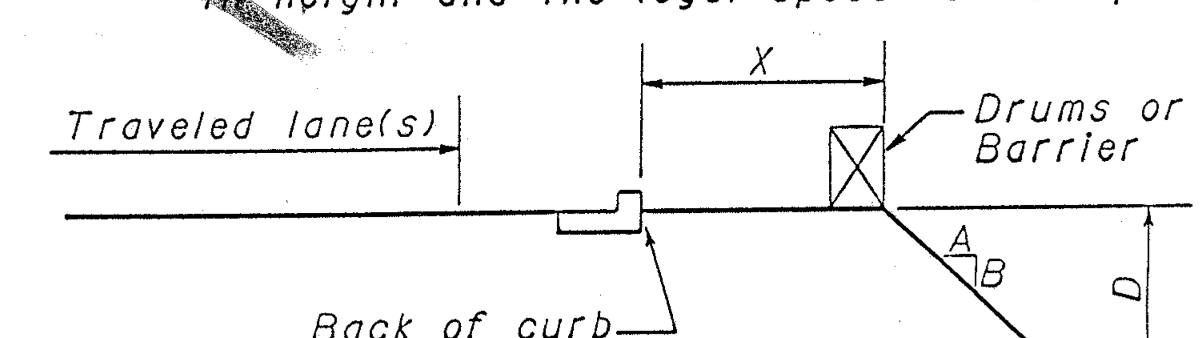


X (Ft.)	D (In.)	A/B	Treatment Required	
			Day	Night
0-4	Any	Any	(a)	(a)
4-30	Any	3:1 or Flatter	None	None
4-12	≤3	Steeper than 3:1	None	None
4-12	>3-≤12	Steeper than 3:1	Drums	Drums
4-12	>12	Steeper than 3:1	Drums	Barrier
>12-20	≤12	Steeper than 3:1	None	None
>12-20	>12-≤24	Steeper than 3:1	Drums	Drums
>12-20	>24	Steeper than 3:1	Drums	Barrier
>20-30	≤24	Steeper than 3:1	None	Drums
>20-30	>24	Steeper than 3:1	Drums	Barrier
>30	Any	Any	None	None

(a) Use treatment specified under Condition II.

CHART B

USE FOR: Curbed facilities, where the curb is 6" or greater in height and the legal speed is 40 mph or less.



X (Ft.)	D (In.)	A/B	Treatment Required	
			Day	Night
0-10	≤12	Any	None	Drums
0-10	>12	Any	Drums	Drums
>10	Any	Any	None	None

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
BUREAU OF LOCATION AND DESIGN

DROPOFFS IN WORK ZONES

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED

MAINTENANCE OF TRAFFIC NOTES

CALC. BY JJM DATE 9/23/92 CHKD. BY DLP DATE 9/11/93	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	32E / 401

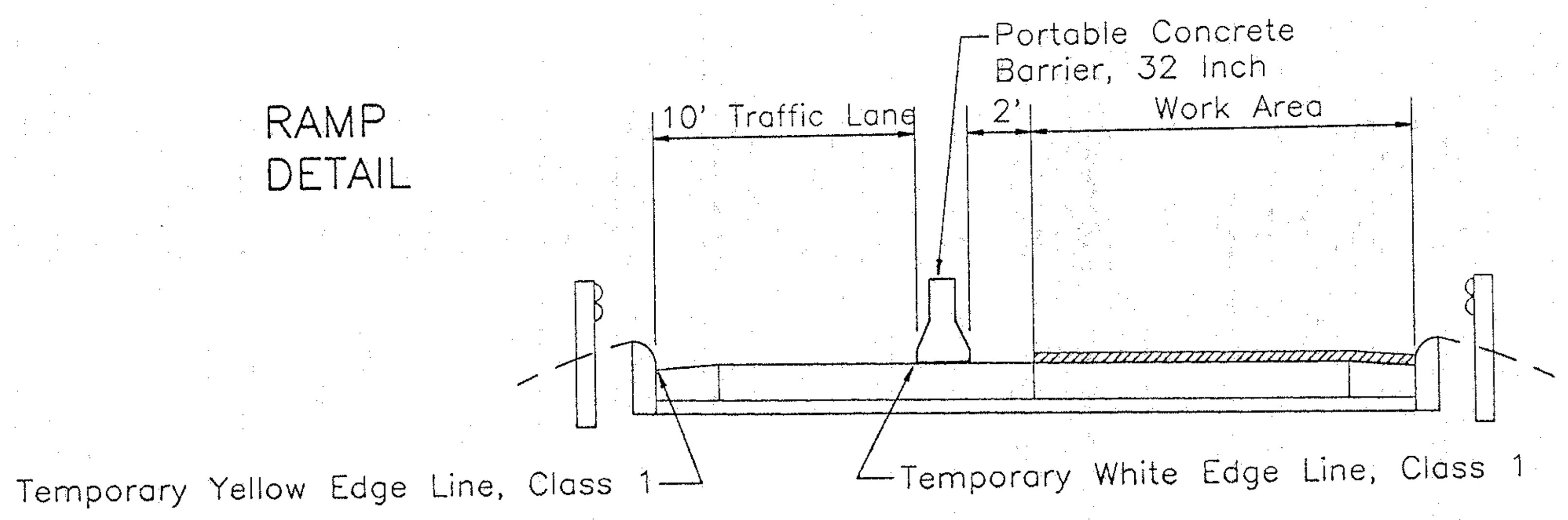
Section 1

Ramps entering/exiting on the outside of I-71 shall be constructed entirely (both Phase A and Phase B) within Stage 2.

Ramps entering/exiting on the inside of I-71 shall be constructed entirely (both Phase A and Phase B) within Stage 3.

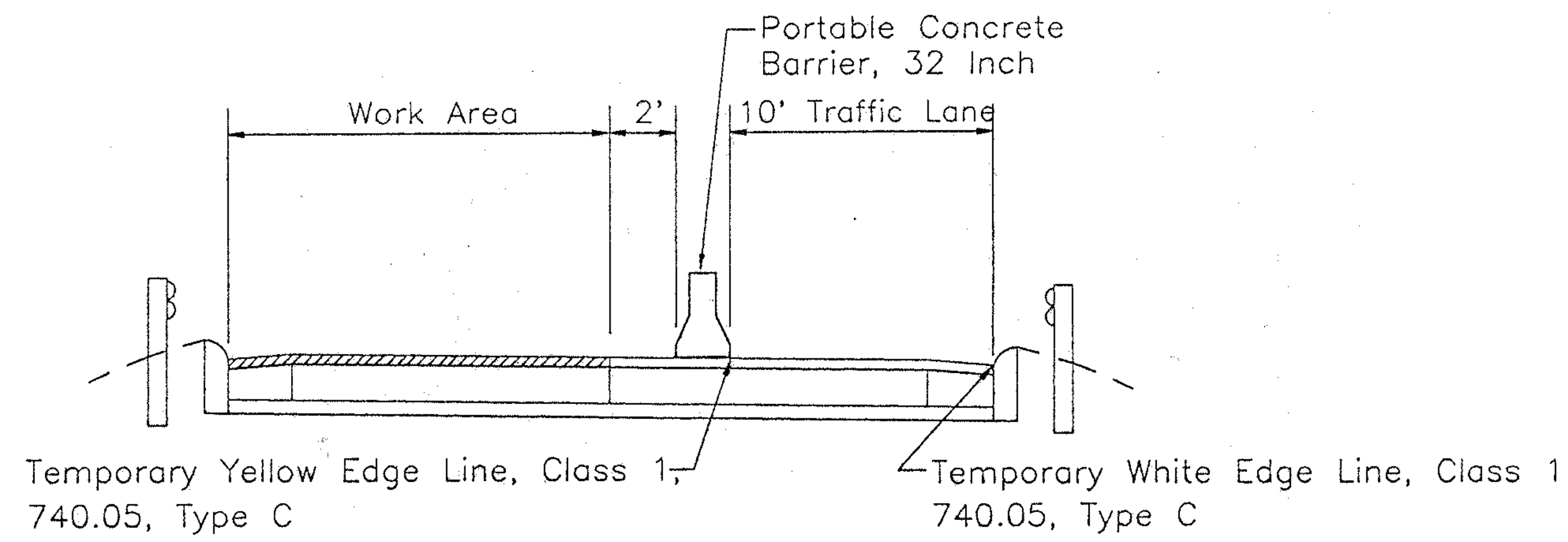
RAMP DETAILS:
During Phase A, the Contractor shall direct traffic to the inside shoulder and pavement utilizing temporary pavement markings and drums to maintain the 10 ft. width of the traveled lane. Portable concrete barrier shall be used instead of drums at locations adjacent to full depth pavement replacement. During this phase, the Contractor will complete the paving operations in the outside shoulder and pavement as well as replacement of the guardrail adjacent to the outside shoulder as specified in the plans. The new rail must be in place before this side of the ramp is reopened to traffic.

RAMP DETAIL



RAMP DETAILS:
During Phase B, the Contractor shall direct traffic to the outside shoulder and pavement utilizing temporary pavement markings and drums to maintain the 10 ft. width of the traveled lane. Portable concrete barrier shall be used instead of drums at locations adjacent to full depth pavement replacement. During this phase, the Contractor will complete the paving operations in the inside shoulder and pavement as well as replacement of the guardrail adjacent to the inside shoulder as specified in the plans. The new rail must be in place before this side of the ramp is reopened to traffic.

RAMP DETAIL



Section 2

Ramps entering/exiting on the outside of I-71 shall be constructed entirely (both Phase A and Phase B) within Stage 1.

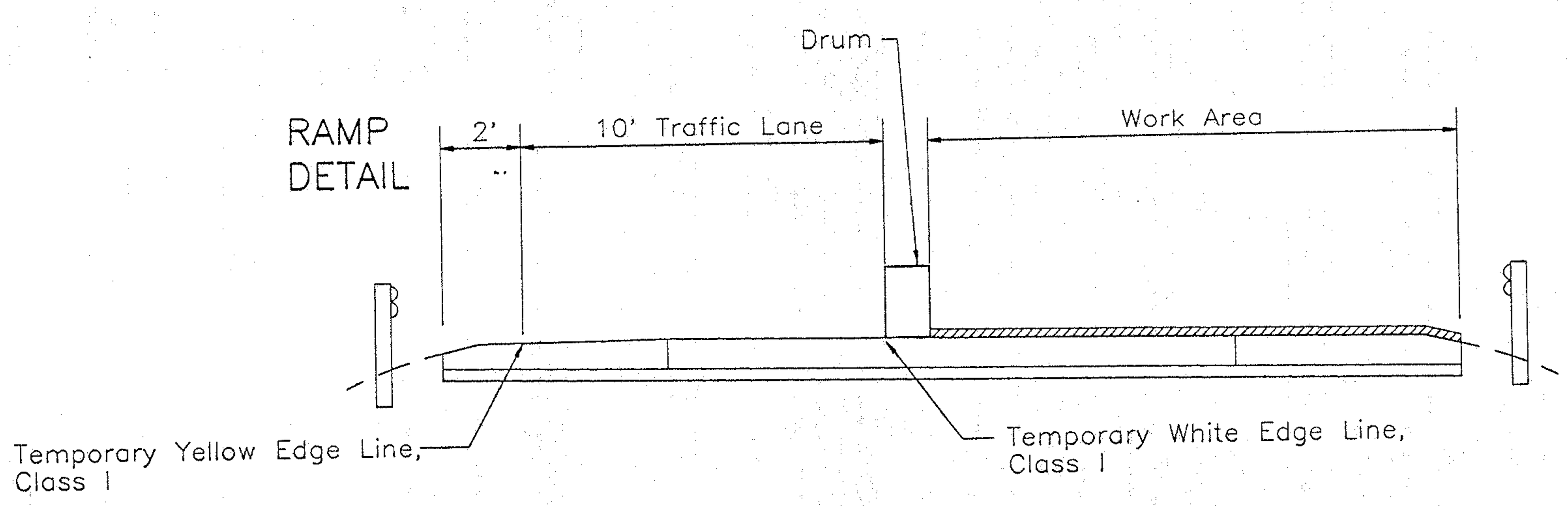
Ramps entering/exiting on the inside of I-71 shall be constructed entirely (both Pase A and Phase B) within Stage 2.

1- 3/4" - 446 Type II
1-1/4" - 446 Type I

RAMP DETAILS:

During Phase A, the Contractor will direct traffic to the inside shoulder and pavement, maintaining the 10 ft. width of the traveled lane by the use of temporary pavement markings. The Contractor will then complete the paving operations in the outside shoulder and pavement as well as replacement of the guardrail adjacent to the outside shoulder as specified in the plans.

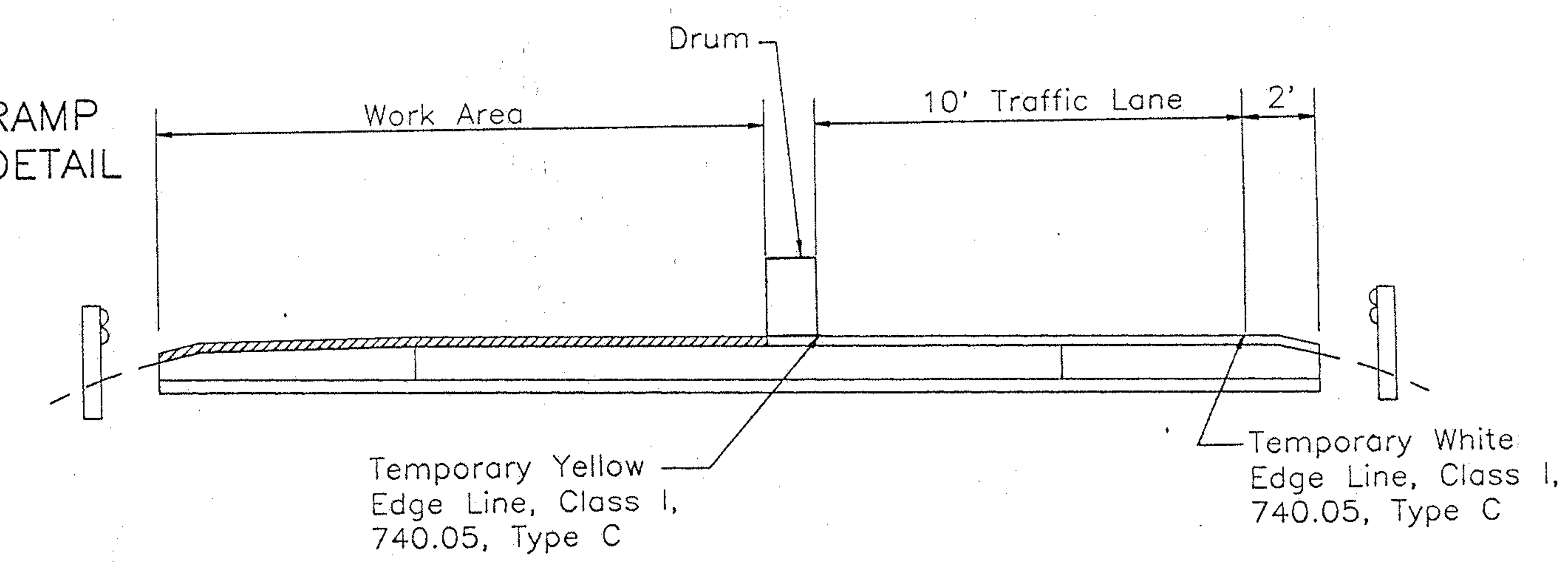
RAMP DETAIL



RAMP DETAILS:

During Phase B, the Contractor will direct traffic to the outside shoulder and pavement, maintaining the 10 ft. width of the traveled lane by the use of temporary pavement markings. The Contractor will then complete the paving operations in the inside shoulder and pavement as well as replacement of the guardrail adjacent to the inside shoulder as specified in the plans.

RAMP DETAIL



RAMP PHASING NOTES AND DETAILS

Sequence of Construction
Section I

MAINTENANCE OF TRAFFIC

Stage 1

During Stage 1, the Contractor shall direct traffic to the center and right-hand lanes utilizing temporary pavement markings and drums. During this stage the Contractor shall install the Temporary Pavement, As Per Plan in the inside shoulder. See Sheet 32A for list of locations for temporary pavement. Also, the temporary pavement shown on Sheets 37 and 38 in the northbound outside shoulder shall be installed.

Stage 2

After Stage 1 has been completed for the entire length of Section 1, the Contractor shall direct traffic to the inside shoulder and left-hand lane utilizing temporary pavement markings and drums to maintain the 10 ft. width of the two travelled lanes. Portable concrete barrier shall be used instead of drums at locations adjacent to full depth pavement replacement. During this stage, the Contractor shall install the Temporary Pavement, As Per Plan in the outside shoulder at locations shown on Sheet 32A. The Contractor shall then complete the paving operations, up through the intermediate course from Sta. 137+17.74 to Sta. 182+00 and up through the surface course from Sta. 182+00 to Sta. 213+00, in the right half of the center lane, the right-hand lanes, and the outside shoulder as well as replacement of the guardrail adjacent to the outside shoulder. The new guardrail must be in place before these lanes are opened to traffic. Payment for sawing the intermediate course from Sta. 137+17.74 to Sta. 182+00 shall be included in item 446.

Stage 2A Sta. 182+00 to Sta. 213+00

After Stage 2 has been completed from Sta. 182+00 to Sta. 213+00, the Contractor shall direct traffic to the outside shoulder and the right-hand lane utilizing temporary pavement markings and drums to maintain the 11 ft. width of the two travelled lanes. Portable concrete barrier shall be used instead of drums at locations adjacent to full depth pavement replacement. During this stage, the Contractor shall complete the paving operations in the inside shoulder, left-hand lane, and the left half of the center lane, up through the surface course, as well as installation of the concrete barrier in the median area.

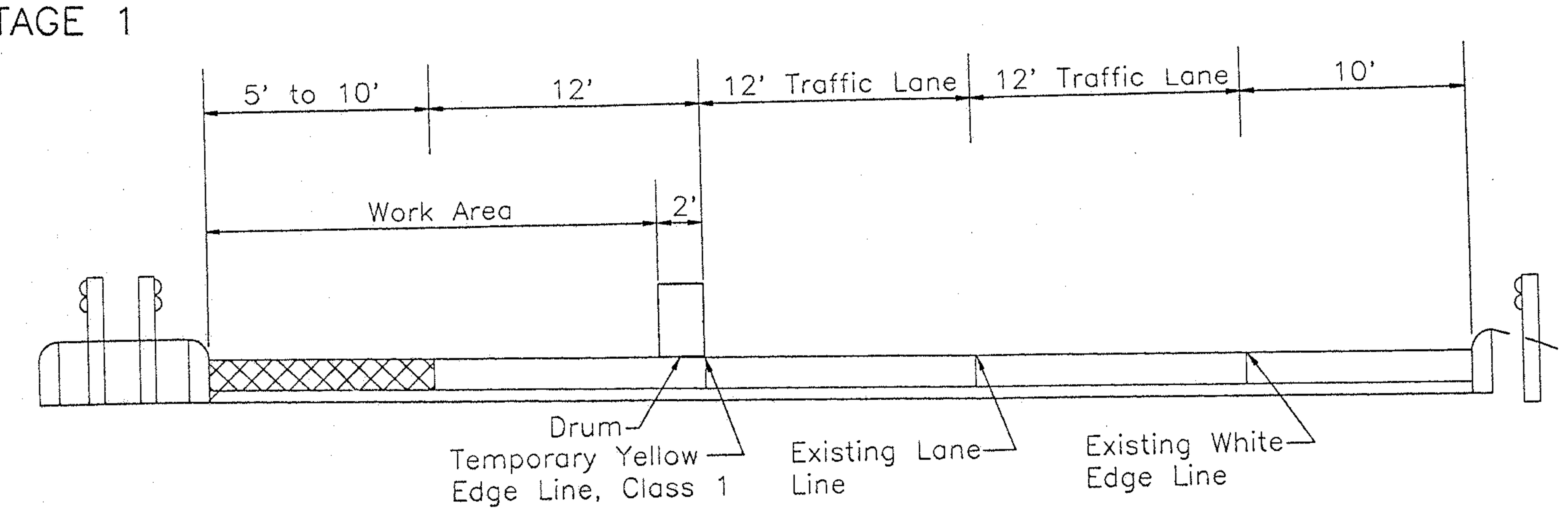
Stage 3 Sta. 137+17.74 to Sta. 182+00

After Stage 2 has been completed from Sta. 137+17.74 to Sta. 182+00, the Contractor shall direct traffic to the outside shoulder and the right-hand lane utilizing temporary pavement markings and drums to maintain the 11 ft. width of the two travelled lanes. Portable concrete barrier shall be used instead of drums at locations adjacent to full depth pavement replacement. During this stage, the Contractor shall complete the paving operations in the inside shoulder, left-hand lane, and the left half of the center lane, up through the surface course, as well as installation of the concrete barrier in the median area.

Stage 4 Sta. 137+17.74 to Sta. 182+00

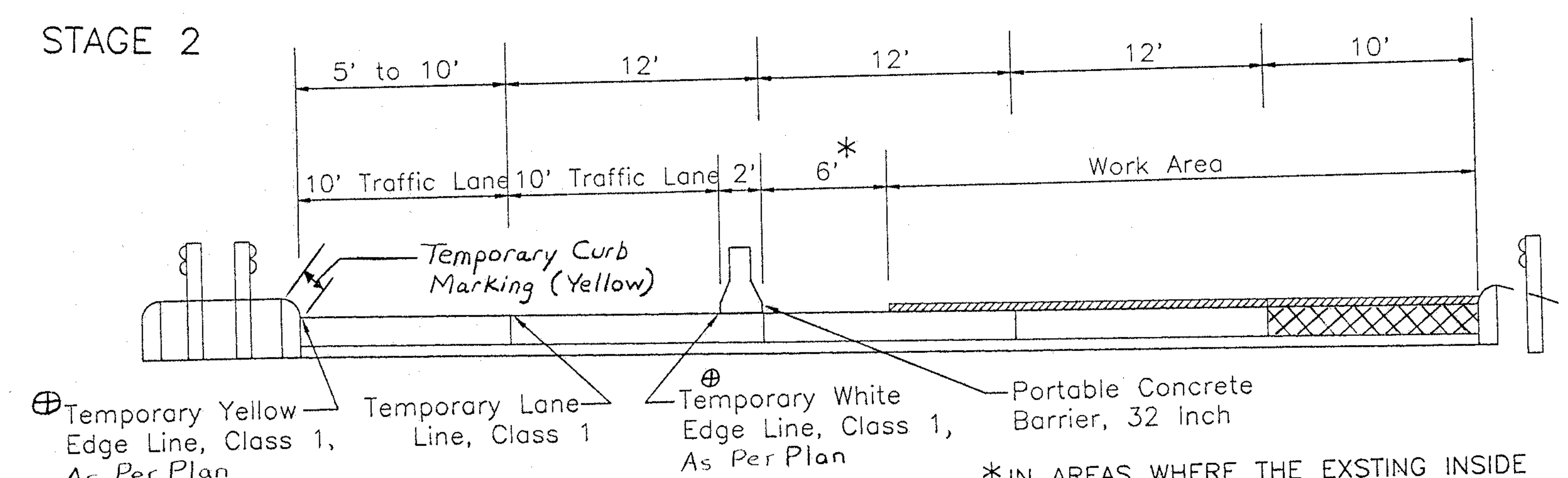
After Stage 3 has been completed, the Contractor shall place the surface course on the right half of the center lane, the right-hand lanes, and the outside shoulder. Permanent pavement markings and raised pavement markers shall also be placed. A minimum of two lanes of traffic shall be maintained at all times, except that during the hours between 9:00 PM and 5:30 AM one lane of traffic may be maintained in each direction, subject to the approval of the Engineer. Failure of the Contractor to reopen the roadway to two lanes by the specified time shall result in the assessment of Liquidated Damages in the amount of $1000 per hour or fraction thereof.

STAGE 1



Temporary Pavement, As Per Plan

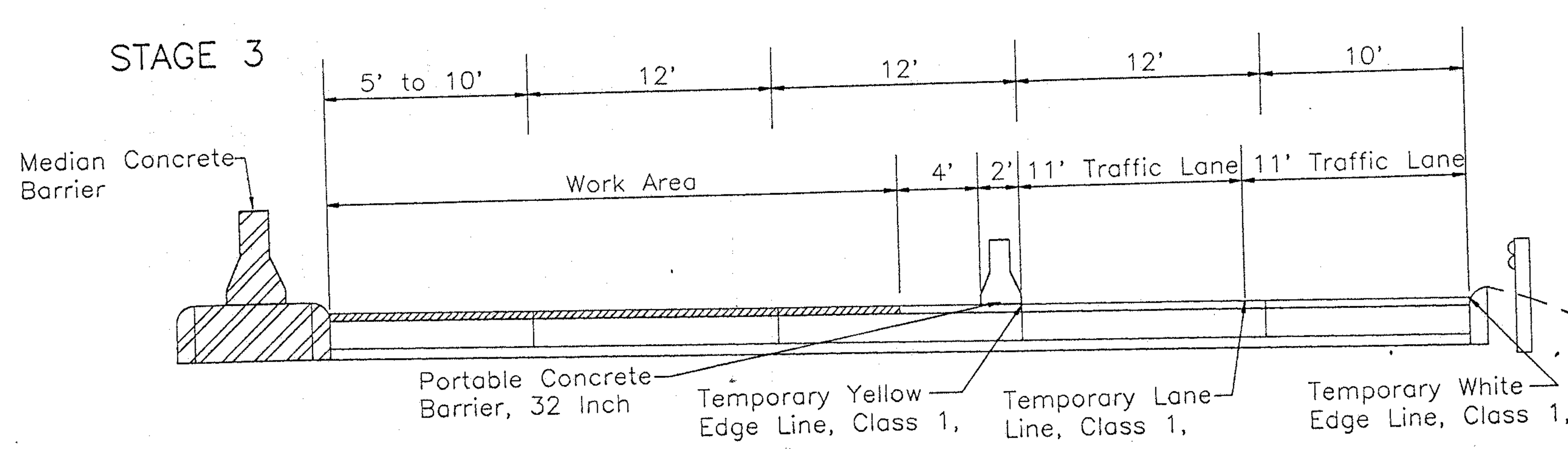
STAGE 2



*IN AREAS WHERE THE EXSTING INSIDE SHOULDER IS 5' IN WIDTH, THIS DISTANCE WILL BE 1'

⊕ Temporary Edge Line in Stage 2 shall be 6" in width

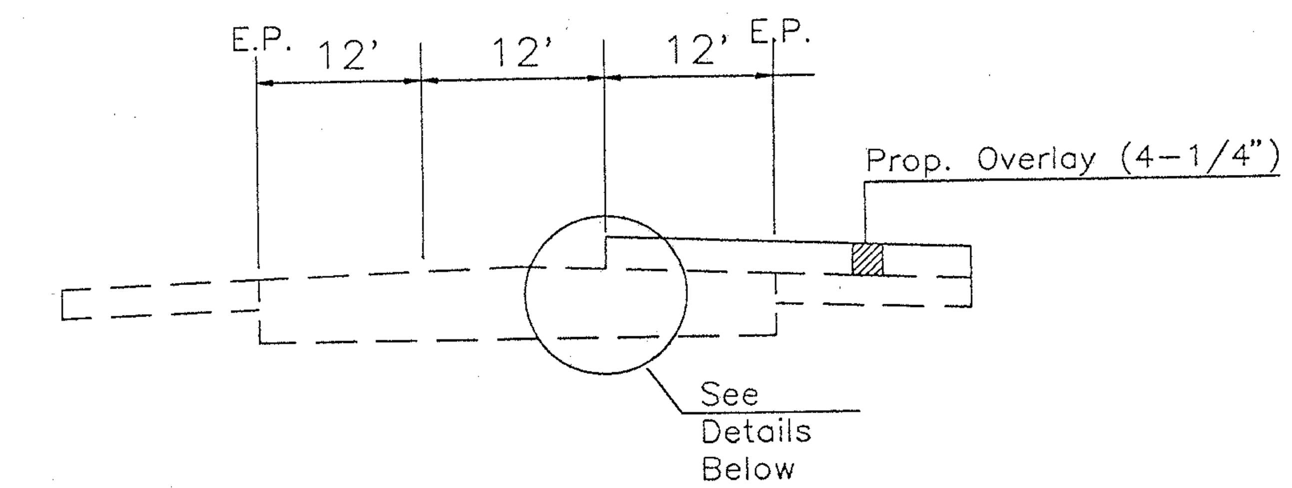
STAGE 3

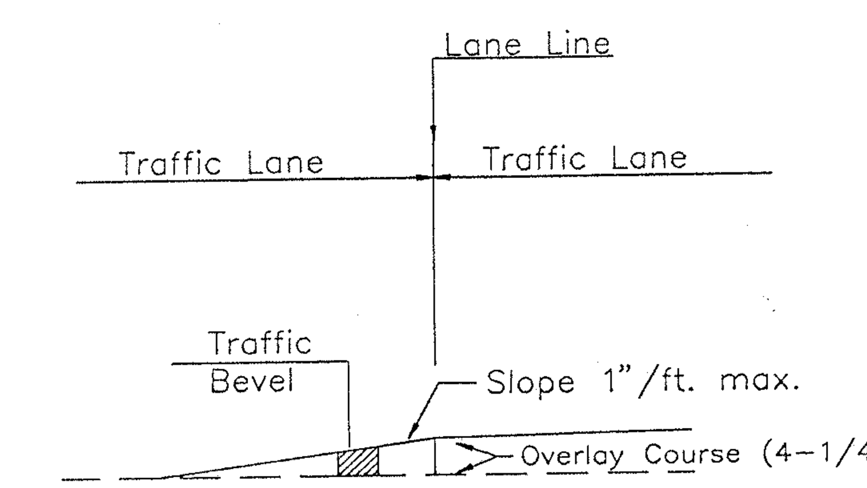


LONGITUDINAL JOINTS

In any case where traffic is exposed to a longitudinal joint greater than 1 1/2" in depth, the contractor shall provide a bevel as detailed in these notes (TRAFFIC BEVEL DETAIL) to provide a smooth transition. The material used for the bevel shall be the same as used in the newly-placed surface course. The bevel may be constructed by planing, raking, separate placement, or any other method as approved by the Engineer. The traffic bevel shall be installed similar to TRAFFIC BEVEL – Detail A.
The traffic bevel shall be removed prior to placement of the adjacent surface course. Payment for this work shall be included in ITEM 614– Maintaining Traffic

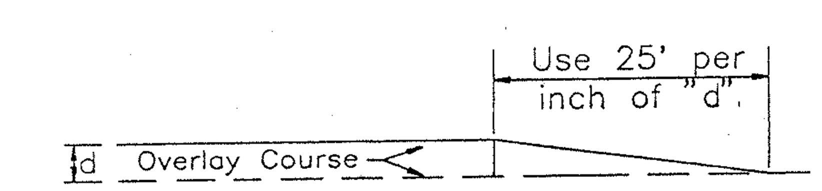
TRAFFIC BEVEL DETAILS





Traffic Bevel – Type A

FEATHERING AT RAMP ENTRANCES



3" – 446 Type II
1-1/4" – 446 Type I (except as noted in Stage 2)

Installation of Conc. Barrier in Median

MAINTENANCE OF TRAFFIC

MAINTENANCE OF TRAFFIC DETAILS

Construction in the Lytle Tunnel on I-71 shall be staged as follows:

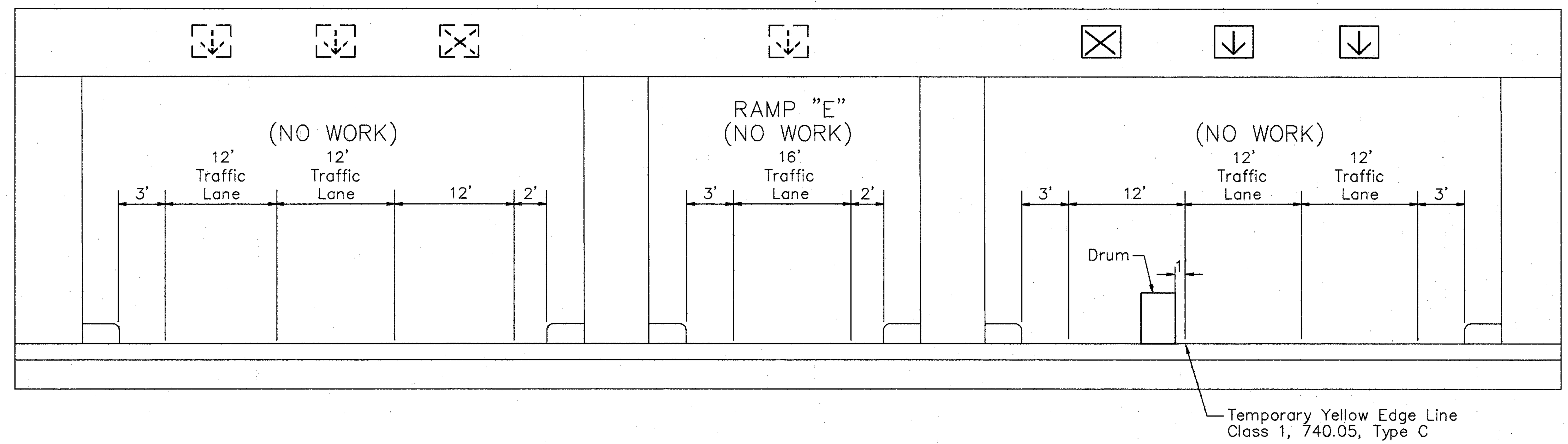
Stage 1

During stage 1, the Contractor will direct northbound traffic to center and right-hand lanes, maintaining the 12 ft. width of the traveled lanes by the use of temporary pavement markings. Southbound traffic shall not be altered in any manner.

RAMP DETAILS:

RAMP "E" shall remain open throughout stage 1 construction.

SIGNAL CONFIGURATION – SOUTHBOUND (THIS VIEW IS LOOKING NORTHBOUND) SIGNAL CONFIGURATION – NORTHBOUND



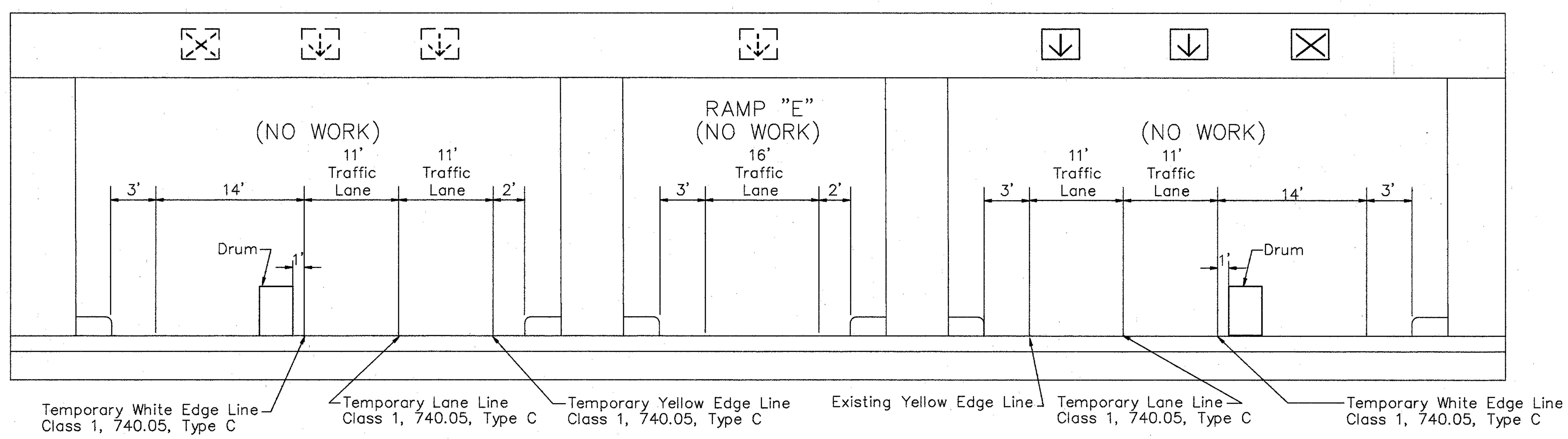
Stage 2

When stage 1 has been completed for the entire length of the project, the Contractor will direct traffic to the northbound and southbound left-hand and center lanes, maintaining the 11 ft. of the traveled lanes by the use of temporary pavement markings and drums. The Contractor will then complete the pavement operations in the right-hand lane and the outside shoulder.

RAMP DETAILS:

RAMP "E" shall remain open throughout stage 2 construction.

SIGNAL CONFIGURATION – SOUTHBOUND (THIS VIEW IS LOOKING NORTHBOUND) SIGNAL CONFIGURATION – NORTHBOUND



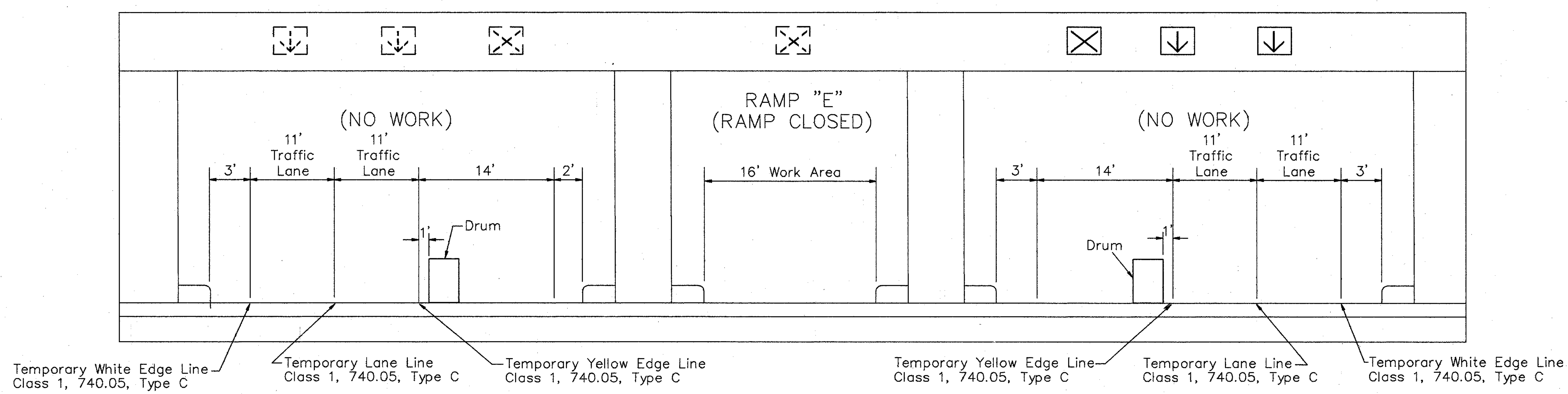
Stage 3

When stage 2 had been completed for the entire length of the project, the Contractor shall then direct traffic to the northbound and southbound center and right-hand lanes utilizing temporary pavement markings and drums to maintain the 11 ft. width of the traveled lanes. During this phase, the Contractor will complete the paving operations in the left-hand lane and the inside shoulder.

RAMP DETAILS:

The Contractor shall close RAMP "E" to traffic during stage 3 and complete joint repairs in that ramp.

SIGNAL CONFIGURATION – SOUTHBOUND (THIS VIEW IS LOOKING NORTHBOUND) SIGNAL CONFIGURATION – NORTHBOUND



LEGEND

- (TL) TEMPORARY LANE LINE, CLASS I
- (TC) 8" WHITE CHANNELIZING LINE, CLASS I
- (TW) TEMPORARY WHITE EDGE LINE, CLASS I
- (TY) TEMPORARY YELLOW EDGE LINE, CLASS I
- (TLT) TEMPORARY LANE LINE, CLASS I, 740.05, TYPE C
- (TCT) 8" WHITE CHANNELIZING LINE, CLASS I, 740.05, TYPE C
- (TWT) TEMPORARY WHITE EDGE LINE, CLASS I, 740.05, TYPE C
- (TYT) TEMPORARY YELLOW EDGE LINE, CLASS I, 740.05, TYPE C
- TYPE A WARNING LIGHT

SECTION 1 - STAGE 1 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS - STA. 119+00 TO STA. 134+00 N.B

FOR LEGEND SEE SHEET NO. 35

SECTION 1 - STAGE 1 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS - STA. 134+00 TO STA. 149+00 N.B.

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FOR LEGEND SEE SHEET NO. 35

SECTION 1 - STAGE 1 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS - STA. 149+00 TO STA. 164+00 N.B.

SECTION 1 - STAGE 1 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS - STA. 164+00 TO STA. 179+00 N.B.

SECTION 1 - STAGE 1 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS - STA. 179+00 TO STA. 193+00 N.B.

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CALC. BY	DATE	CHKD. BY	DATE			
JJM	9/23/92	DLT	9/1/92	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	40 / 401

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FOR LEGEND SEE SHEET NO. 35

SECTION 1 - STAGE 1 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS - STA. 193+00 TO STA. 208+00 N.B.

CALC. BY / DATE / CHKD. BY / DATE	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	41 / 401

FOR LEFT LANE CLOSURE DETAILS
SEE O.D.O.T. STANDARD CONSTRUCTION DWG. MT-95.30

FOR LEGEND
SEE SHEET NO. 35

SECTION 1 – STAGE 1 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS – STA. 208+00 TO STA. 223+00 N.B.

CALC. BY [illegible] DATE [illegible]
CHKD. BY [illegible] DATE [illegible]

LEGEND

TL	TEMPORARY LANE LINE, CLASS I
TC	8" WHITE CHANNELIZING LINE, CLASS I
TW	TEMPORARY WHITE EDGE LINE, CLASS I
TY	TEMPORARY YELLOW EDGE LINE, CLASS I
TLT	TEMPORARY LANE LINE, CLASS I, 740.05, TYPE C
TCT	TEMPORARY 8" CHANNELIZING LINE, CLASS I, 740.05, TYPE C
TWT	TEMPORARY WHITE EDGE LINE, CLASS I, 740.05, TYPE C
TYT	TEMPORARY YELLOW EDGE LINE, CLASS I, 740.05, TYPE C
	TYPE A WARNING LIGHT

SECTION 1 – STAGE 2 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS – STA. 119+00 TO STA. 134+00 N.E.

CALC. BY / DATE	CHKD. BY / DATE			
[illegible] 9/23/92	DLT [illegible]	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	43 / 401

FOR LEGEND SEE SHEET NO. 42

SECTION 1 - STAGE 2 CONSTRUCTION

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MAINTENANCE OF TRAFFIC DETAILS - STA. 134+00 TO STA. 149+00 N.B.

CALC. BY / DATE	CHKD. BY / DATE	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	44/401

NOTE: THE SOUTHBOUND I-471 EXIT RAMP MAY BE CLOSED BETWEEN THE HOURS OF 9:00 PM AND 6:00 AM, MONDAY THROUGH THURSDAY, AND BETWEEN 9:00 PM FRIDAY EVENING UNTIL 6:00 AM THE FOLLOWING MONDAY MORNING.

FOR ENTRANCE RAMP AREA DETAILS SEE O.D.O.T. STANDARD CONSTRUCTION DRAWING MT-98.15 AND MT-98.16

FOR ENTRANCE RAMP AREA DETAILS SEE O.D.O.T. STANDARD CONSTRUCTION DRAWING MT-98.15 AND MT-98.16

FOR LEGEND SEE SHEET NO. 42

SECTION 1 - STAGE 2 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS - STA. 149+00 TO STA. 164+00 N.B

MAINTENANCE OF TRAFFIC DETAILS - STA. 164+00 TO STA. 179+00 N.B.

MAINTENANCE OF TRAFFIC DETAILS - STA. 179+00 TO STA. 193+00 N.B.

FOR LEGEND SEE SHEET NO. 42

SECTION 1 - STAGE 2 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS - STA. 193+00 TO STA. 208+00 N.B.

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CALC. BY / DATE	HAM-71-1.30/9.00	OHIO / F.H.W.A. REGION 5	48 / 401

FOR LEGEND
SEE SHEET NO. 42

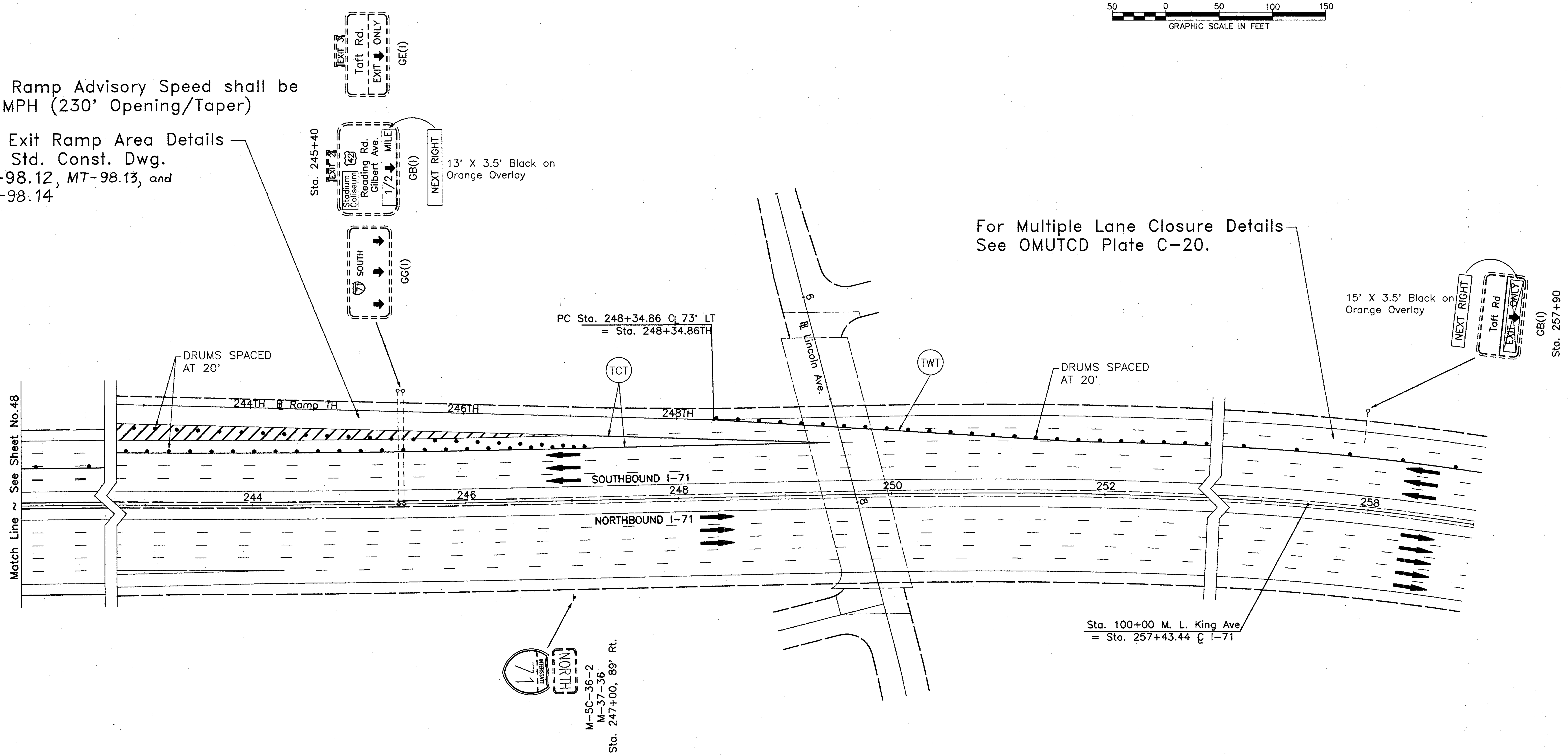
SECTION 1 – STAGE 2 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS – STA. 208+00 TO STA. 223+00 N.B.

Exit Ramp Advisory Speed shall be 40 MPH (230' Opening/Taper)

For Exit Ramp Area Details See Std. Const. Dwg. MT-98.12, MT-98.13, and MT-98.14

For Multiple Lane Closure Details See OMUTCD Plate C-20.



FOR LEGEND SEE SHEET NO. 42

SECTION 1 - STAGE 2 CONSTRUCTION


HAM-71-1.30/9.00
OHIO
F.H.W.A. REGION 5
49A
401
GRAPHIC SCALE IN FEET
NOTE: RAMPS RA,GA MAY BE CLOSED BETWEEN THE HOURS OF 9:00 PM & 6:00 AM MONDAY THROUGH FRIDAY.
RAMPS RB, RF CLOSED FOR DURATION OF PROJECT
NOTE: See Plan Detail A For Maintenance of Traffic Details for Ramps RB, RC, RE and RF, and Northbound Reading Rd.
INSERT
PLAN DETAIL A
RAMPS RE, RC, RB, AND RF
Southbound READING RD.
Ramp RA
Ramp GA
Ramp RF
Ramp RB
Ramp RC
Ramp RE
Ramp RD
Northbound Reading Rd.
SOUTHBOUND I-71
NORTHBOUND I-71
DORCHESTER ST.
Bridge No. HAM-42-0264R
Bridge No. HAM-71-0243L
Bridge No. HAM-42-0257R
Bridge No. HAM-71-0243R
BEGIN WORK Sta. 13+70
BEGIN WORK Sta. 32+10
END WORK Sta. 32+10
END WORK Sta. 193+85
END WORK Sta. 193+55
BEGIN WORK Sta. 185+99.00
DRUMS SPACED AT 20'
DRUMS SPACED AT 50'
ONE 10' TRAFFIC LANE
TWO 10' TRAFFIC LANES
TWO 11' TRAFFIC LANES
Retrofit Concrete Barrier
End Lane Shift Taper Sta. 182+00
Begin Lane Shift Taper Sta. 182+00
End Lane Shift Taper Sta. 193+00
Match Line Sta. 179+00 ~ See Sheet No. 45
Match Line Sta. 193+00 ~ See Sheet No. 49B
SPEED LIMIT 45 R-10-48 STA. 184+00
SPEED LIMIT 35 R-10-36
REDUCED SPEED 35 AHEAD
OVERHEAD SIGN Sta. 19+00 SB Reading
OVERHEAD SIGN Sta. 180+61
OVERHEAD SIGN Sta. RA 192+09
OVERHEAD SIGN Sta. RC 187+25
CANTILEVER SIGN Sta 9+39
CANTILEVER SIGN Sta. RC 181+68 Lt.
GROUND SIGN Sta. 30+20
FOR ADVANCE SIGNING FOR LANE SHIFT TAPERS SEE STANDARD CONSTRUCTION DWG. MT-102.20
FOR ENTRANCE RAMP AREA DETAILS SEE O.D.O.T. STANDARD CONSTRUCTION DWG. MT-98.15 & MT-98.16
FOR LEGEND SEE SHEET NO. 42
SECTION 1 - STAGE 2A CONSTRUCTION
MAINTENANCE OF TRAFFIC DETAILS - STA. 179+00 TO STA. 193+00 N.B.
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CALC. BY DZM DATE 9/21/92 CHKD. BY OCT DATE 7/1/93	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	498 / 401

NOTE: RAMPS RA & GA MAY BE CLOSED BETWEEN THE HOURS OF 9:00 PM AND 6:00 AM, MONDAY THROUGH FRIDAY.

FOR EXIT RAMP AREA DETAILS SEE O.D.O.T. STD. CONST. DWGS. MT-98.12, MT-98.13, MT-98.14

FOR ENTRANCE RAMP AREA DETAILS SEE O.D.O.T. STANDARD CONSTRUCTION DWG. MT-98.15 & MT-98.16

FOR ADVANCE SIGNING FOR LANE SHIFT TAPERS SEE STANDARD CONSTRUCTION DWG. MT-102.20

FOR LEGEND SEE SHEET NO. 50

SECTION 1 - STAGE 2A CONSTRUCTION

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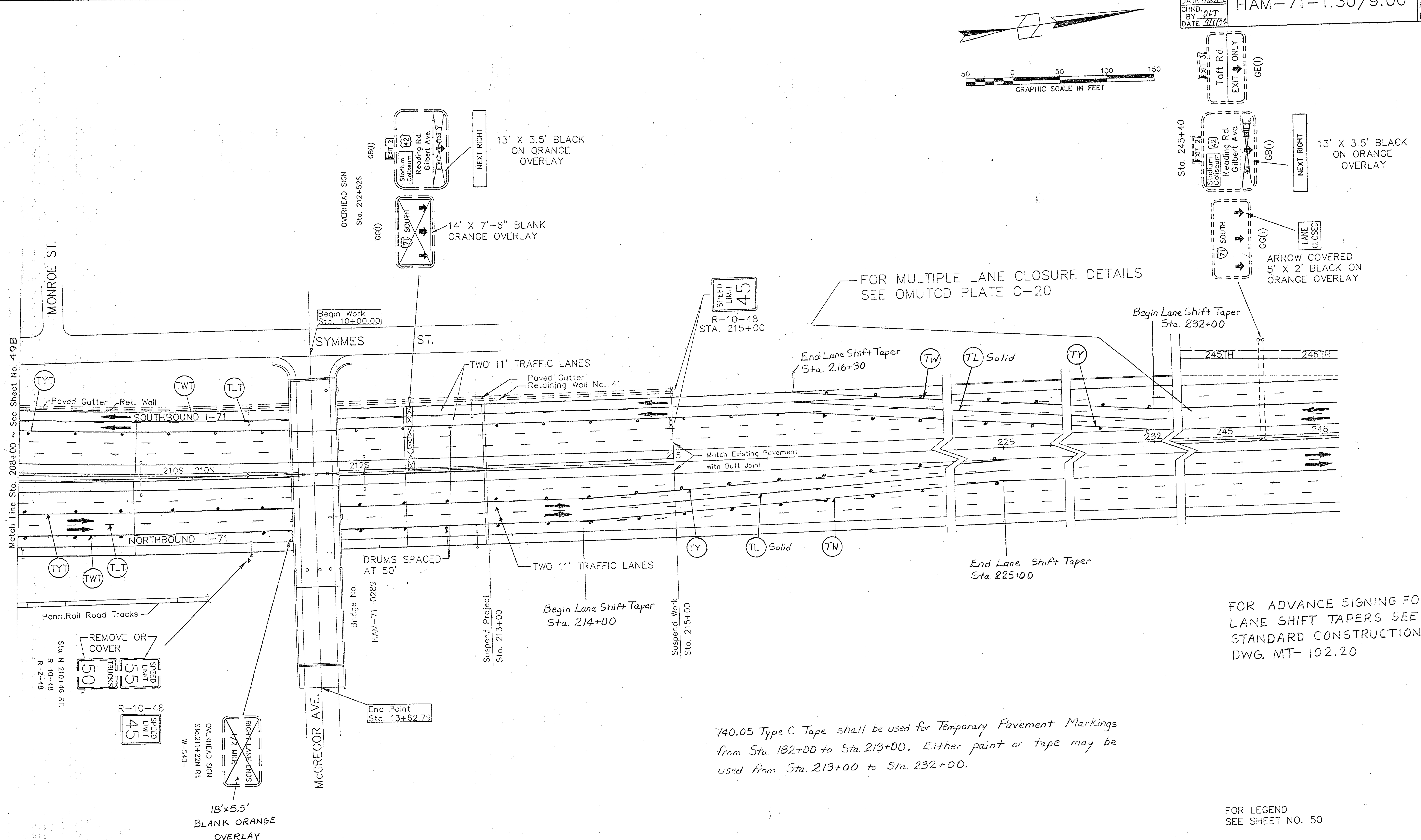
MAINTENANCE OF TRAFFIC DETAILS - STA. 193+00 TO STA. 208+00 N.B.



FOR ADVANCE SIGNING FOR LANE SHIFT TAPERS SEE STANDARD CONSTRUCTION DWG. MT- 102.20

740.05 Type C Tape shall be used for Temporary Pavement Markings from Sta. 182+00 to Sta. 213+00. Either paint or tape may be used from Sta. 213+00 to Sta. 232+00.

FOR LEGEND SEE SHEET NO. 50

SECTION 1 - STAGE 2A CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS - STA. 208+00 TO STA. 223+00 N.B.

345 Orange Y
50-122

CALC. BY / DATE / CHKD. BY / DATE	HAM-71-1.30/9.00	OHIO / F.H.W.A. REGION 5	50 / 401

LEGEND

- (TLT) TEMPORARY LANE LINE, CLASS I, 740.05, TYPE C
- (TCT) TEMPORARY CENTER LINE, CLASS 1, 740.05, TYPE C
- (TCT) 8" WHITE CHANNELIZING LINE, CLASS I, 740.05, TYPE C
- (TWT) TEMPORARY WHITE EDGE LINE, CLASS I, 740.05, TYPE C
- (TYT) TEMPORARY YELLOW EDGE LINE, CLASS I, 740.05, TYPE C
- TYPE A WARNING LIGHT

SECTION 1 - STAGE 3 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS - STA. 119+00 TO STA. 134+00 N.B.

HAM-71-1.30/9.00 | OHIO F.H.W.A. REGION 5 | 51/401

SECTION 1 – STAGE 3 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS – STA. 134+00 TO STA. 149+00 N.B.

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HAM-71-1.30/9.00

OHIO
F.H.W.A. REGION 5

52/401

NOTE: THE SOUTHBOUND I-471 EXIT RAMP MAY BE CLOSED BETWEEN THE HOURS OF 9:00 PM AND 6:00 AM, MONDAY THROUGH THURSDAY, AND BETWEEN 9:00 PM FRIDAY EVENING UNTIL 6:00 AM THE FOLLOWING MONDAY MORNING.

FOR LEGEND SEE SHEET NO. 50

SECTION 1 - STAGE 3 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS - STA. 149+00 TO STA. 164+00 N.B.

MAINTENANCE OF TRAFFIC DETAILS – STA. 164+00 TO STA. 179+00 N.B.

HAM-71-1.30/9.00

OHIO F.H.W.A. REGION 5

54 / 401

* Ramp Closure Treatment for Ramps RB, RF

RAMP CLOSED

R-75-48

MOUNT ON TYPE III BARRICADE

DRUMS SPACED AT 5'

SECTION 1 – STAGE 3 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS – STA. 179+00 TO STA. 193+00 N.B.

G:\71\MOT\179-193A.dwg – OCT. 06, 1992

NOTE: RAMPS RA & GA MAY BE CLOSED BETWEEN THE HOURS OF 9:00 PM AND 6:00 AM, MONDAY THROUGH FRIDAY.

FOR EXIT RAMP AREA DETAILS SEE O.D.O.T. STD. CONST. DWGS. MT-98.12, MT-98.13, MT-98.14

FOR LEGEND SEE SHEET NO. 50

SECTION 1 – STAGE 3 CONSTRUCTION

G:\71\MOT\193-208A.dwg – OCT. 05, 1992

MAINTENANCE OF TRAFFIC DETAILS – STA. 193+00 TO STA. 208+00 N.B.

FOR LEGEND SEE SHEET NO. 50

SECTION 1 - STAGE 3 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS - STA. 208+00 TO STA. 223+00 N.B.

MAINTENANCE OF TRAFFIC

Sequence of Construction

Section 2

Stage 1

During Stage 1, the Contractor shall direct traffic to the left-hand and center lanes utilizing temporary pavement markings and drums to maintain the 10 ft. width of the two travelled lanes. Portable concrete barrier shall be used instead of drums adjacent to areas of full depth pavement replacement. During this stage, the Contractor will place Temporary Pavement, As Per Plan in the outside shoulders at locations as shown on Sheet 32A. The Contractor will then complete paving operations, up through the intermediate course, in the right-hand lane and outside shoulder as well as replacement of the guardrail adjacent to the outside shoulder. Payment for sawing the intermediate course shall be included in item 446.

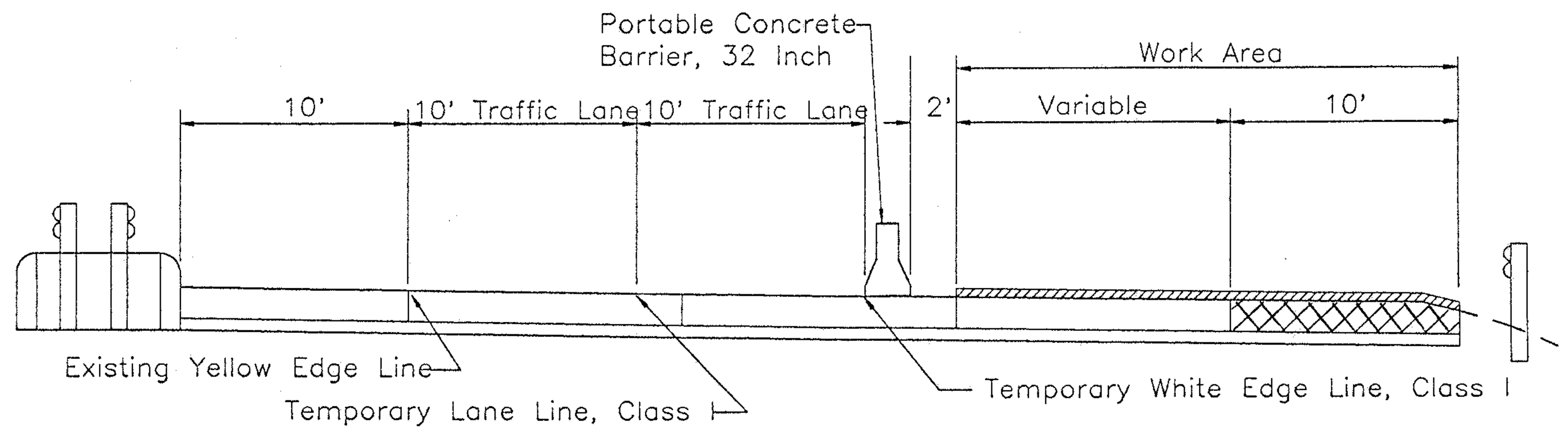
Stage 2

During Stage 2, the Contractor shall direct traffic to the right-hand lane and shoulder utilizing temporary pavement markings and drums to maintain the 10 ft. width of the two travelled lanes. Portable concrete barrier shall be used instead of drums adjacent to areas of full depth pavement replacement. During this stage the Contractor will complete the paving operations, up through the surface course, in the left-hand lane, center lane, and the inside shoulder, as well as installation of the concrete barrier in the median area.

Stage 3

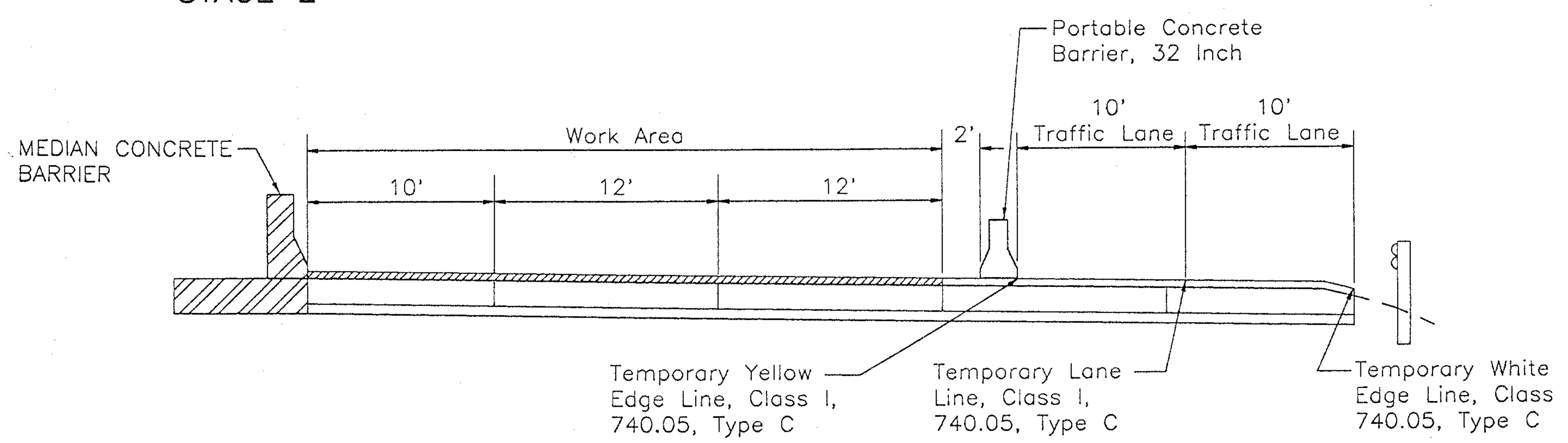
During this stage, the Contractor will direct traffic to the left-hand and center lanes. During this stage, the Contractor will place the surface course in the right-hand lane and the outside shoulder. Permanent pavement markings and raised pavement markers shall then be installed.

STAGE 1



Temporary Pavement, As Per Plan

STAGE 2



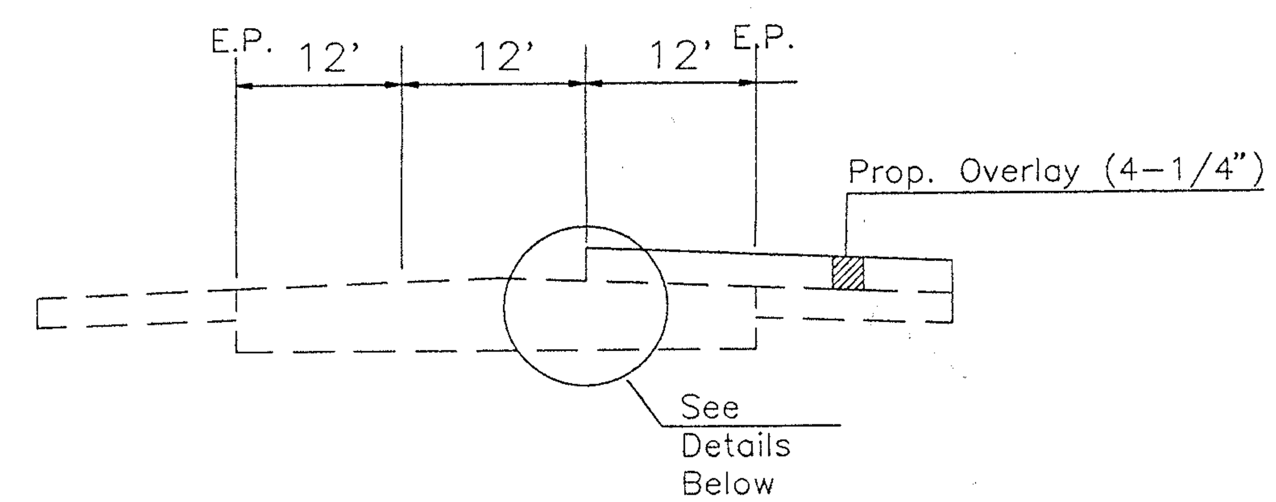
3" – 446 Type II
1-1/4" – 446 Type I
(Surface course omitted in Stage 1, placed in Stage 3)

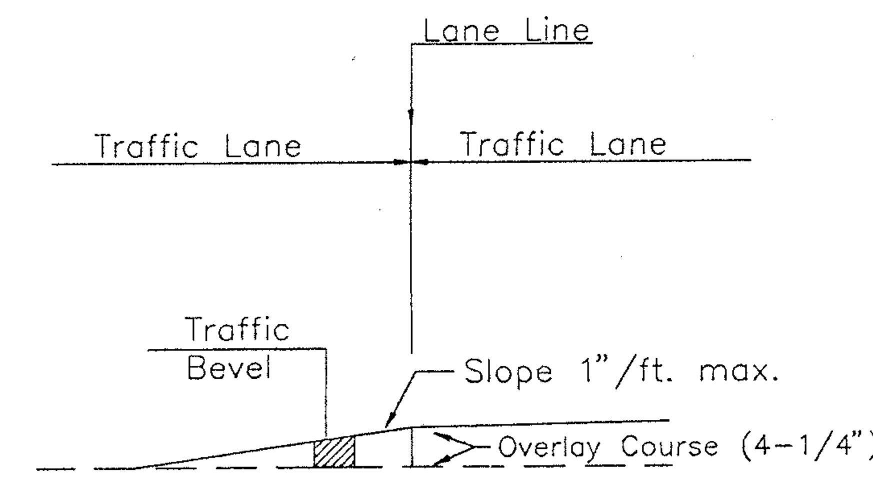
Installation of Conc. Barrier in Median

LONGITUDINAL JOINTS

In any case where traffic is exposed to a longitudinal joint greater than 1 1/2" in depth, the contractor shall provide a bevel as detailed in these notes (TRAFFIC BEVEL DETAIL) to provide a smooth transition. The material used for the bevel shall be the same as used in the newly-placed surface course. The bevel may be constructed by planing, raking, separate placement, or any other method as approved by the Engineer. The traffic bevel shall be installed similar to TRAFFIC BEVEL – Detail A.
The traffic bevel shall be removed prior to placement of the adjacent surface course. Payment for this work shall be included in ITEM 614– Maintaining Traffic

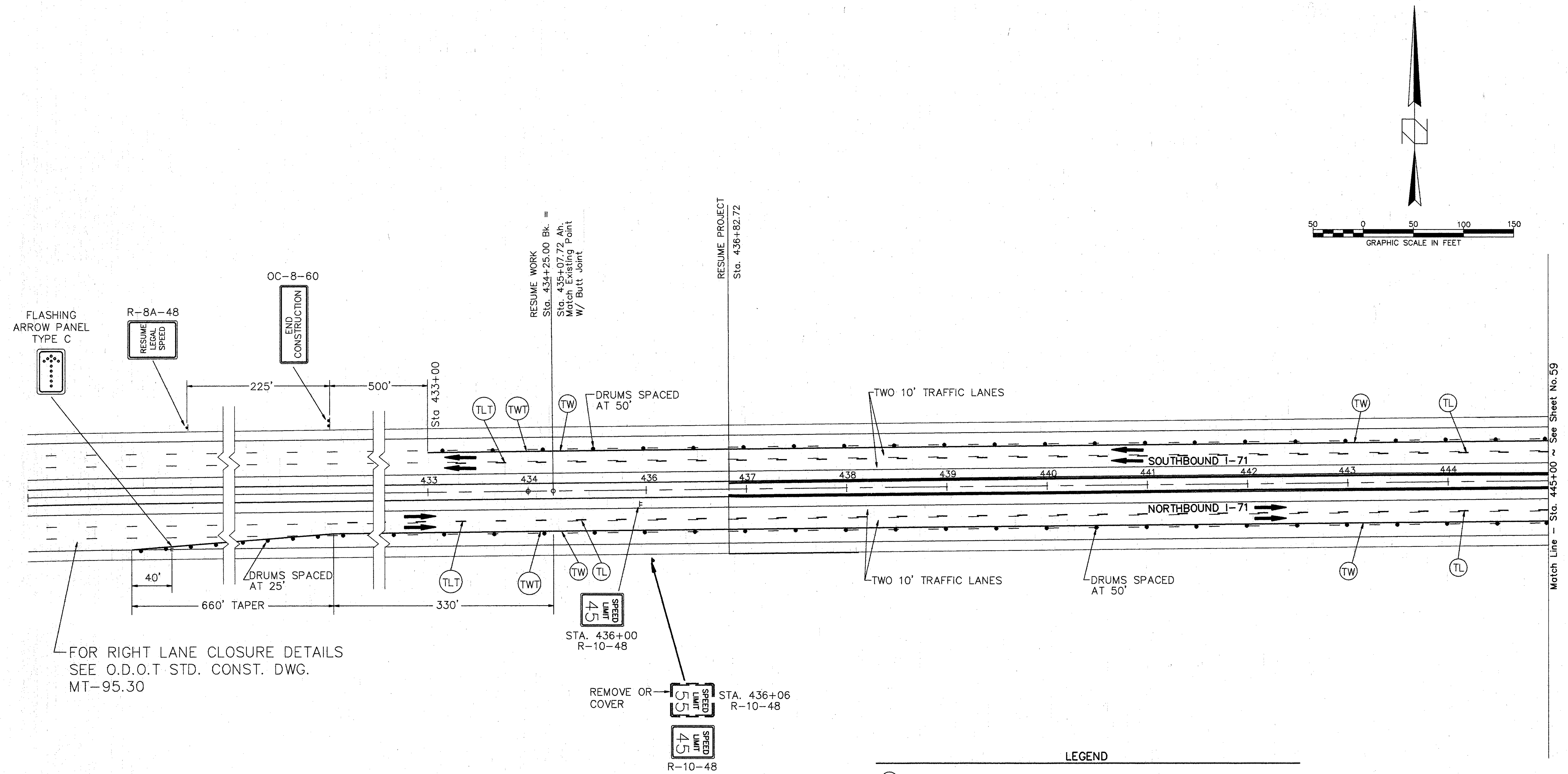
TRAFFIC BEVEL DETAILS





Traffic Bevel – Type A

FEATHERING AT RAMP ENTRANCES

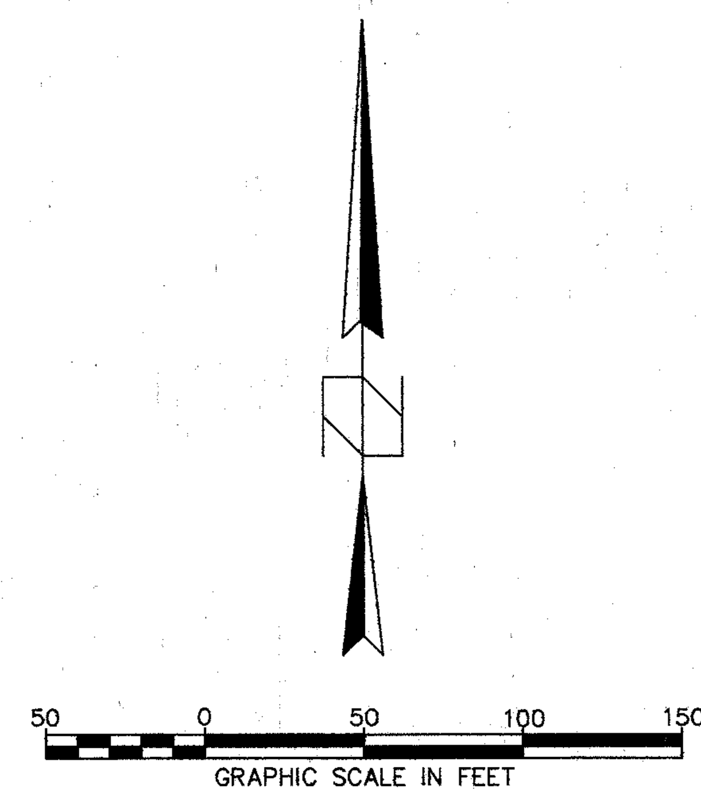


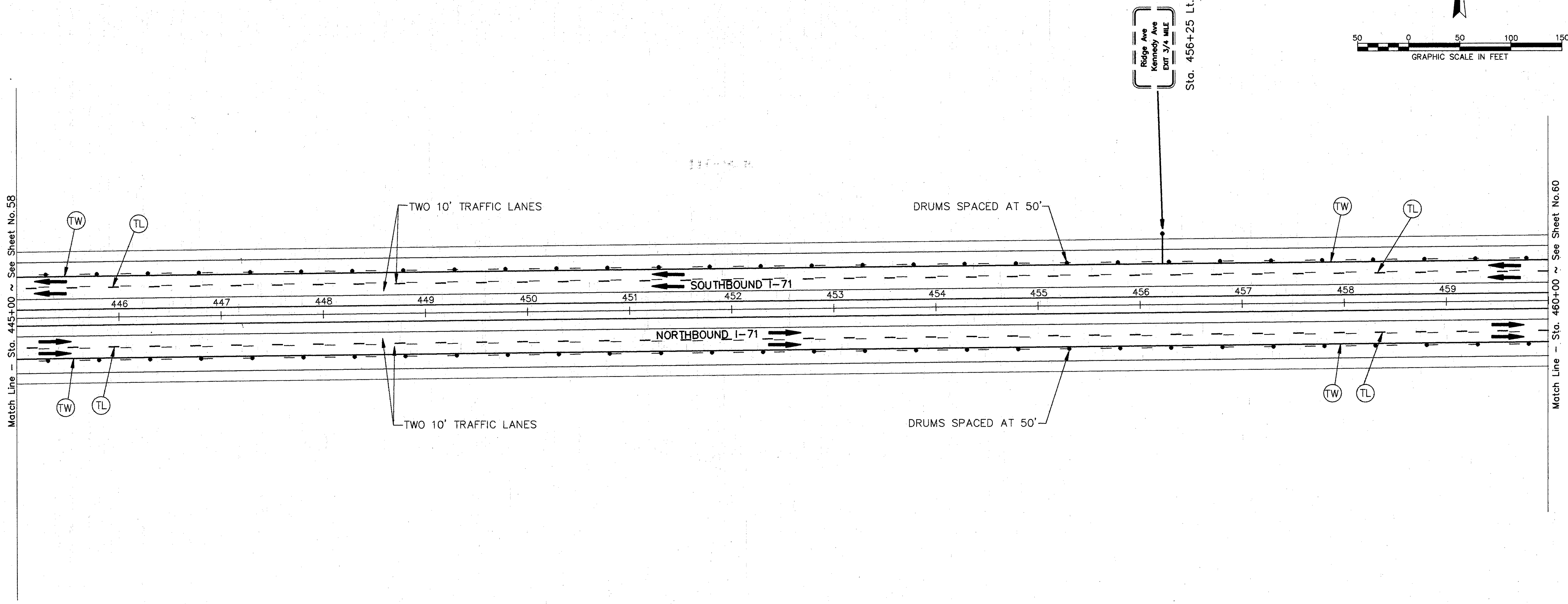
LEGEND

- (TL) TEMPORARY LANE LINE, CLASS 1
- (TC) TEMPORARY 8" WHITE CHANNELIZING LINE, CLASS 1
- (TY) TEMPORARY YELLOW EDGE LINE, CLASS 1
- (TW) TEMPORARY WHITE EDGE LINE, CLASS 1
- (TLT) TEMPORARY LANE LINE, CLASS 1, 740.05, TYPE C
- (TCT) TEMPORARY 8" WHITE CHANNELIZING LINE, CLASS 1, 740.05, TYPE C
- (TYT) TEMPORARY YELLOW EDGE LINE, CLASS 1, 740.05, TYPE C
- (TWT) TEMPORARY WHITE EDGE LINE, CLASS 1, 740.05, TYPE C

SECTION 2 – STAGE 1 CONSTRUCTION

CALC. BY / DATE / CHKD. BY / DATE	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	59/401





FOR LEGEND
SEE SHEET NO. 58

SECTION 2 – STAGE 1 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS – STA. 445+00 TO STA. 460+00

CALC. BY J.T.M. DATE 9/23/92; CHKD. BY DATE	HAM–71–1.30/9.00	OHIO F.H.W.A. REGION 5	60/401

FOR LEGEND SEE SHEET NO. 58

SECTION 2 – STAGE 1 CONSTRUCTION

G:\71\MOT\460-475.dwg – SEPT. 30, 1992

MAINTENANCE OF TRAFFIC DETAILS – STA. 460+00 TO STA. 475+00

SECTION 2 – STAGE 1 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS – STA. 475+00 TO STA. 488+00

CALC. BY / DATE / CHKD. BY / DATE	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	62/401

SECTION 2 - STAGE 1 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS - STA. 488+00 TO STA. 503+00

G:\71\MOT\488-503.dwg - SEPT. 30, 1992

FOR LEGEND SEE SHEET NO. 58

SECTION 2 - STAGE 1 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS - STA. 503+00 TO STA. 518+00

G:\71\MOT\503-518.dwg - SEPT. 29, 1992

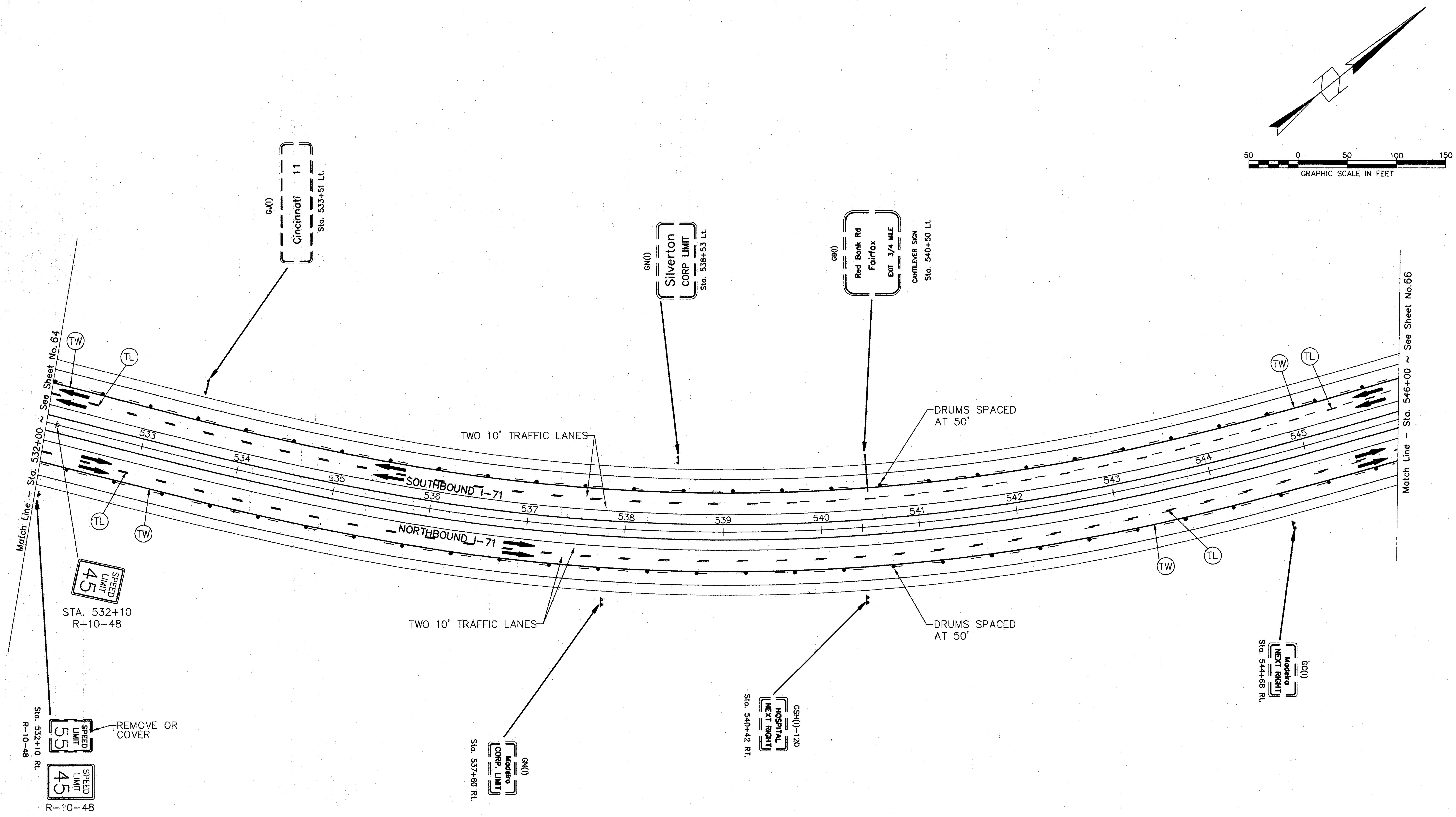
CALC. BY / DATE / CHKD. BY / DATE	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	64/401

SECTION 2 - STAGE 1 CONSTRUCTION

G:\71\MOT\518-532.dwg - OCT. 05, 1992

MAINTENANCE OF TRAFFIC DETAILS - STA. 518+00 TO STA. 532+00

CALC. BY DATE 9/23/92 CHKD. BY DATE	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	65/401



FOR LEGEND
SEE SHEET NO. 58

SECTION 2 - STAGE 1 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS - STA. 532+00 TO STA. 546+00

50 0 50 100 150
GRAPHIC SCALE IN FEET

FOR LEGEND
SEE SHEET NO. 58

SECTION 2 - STAGE 1 CONSTRUCTION

G:\71\MOT\546-561.dwg - OCT. 01, 1992

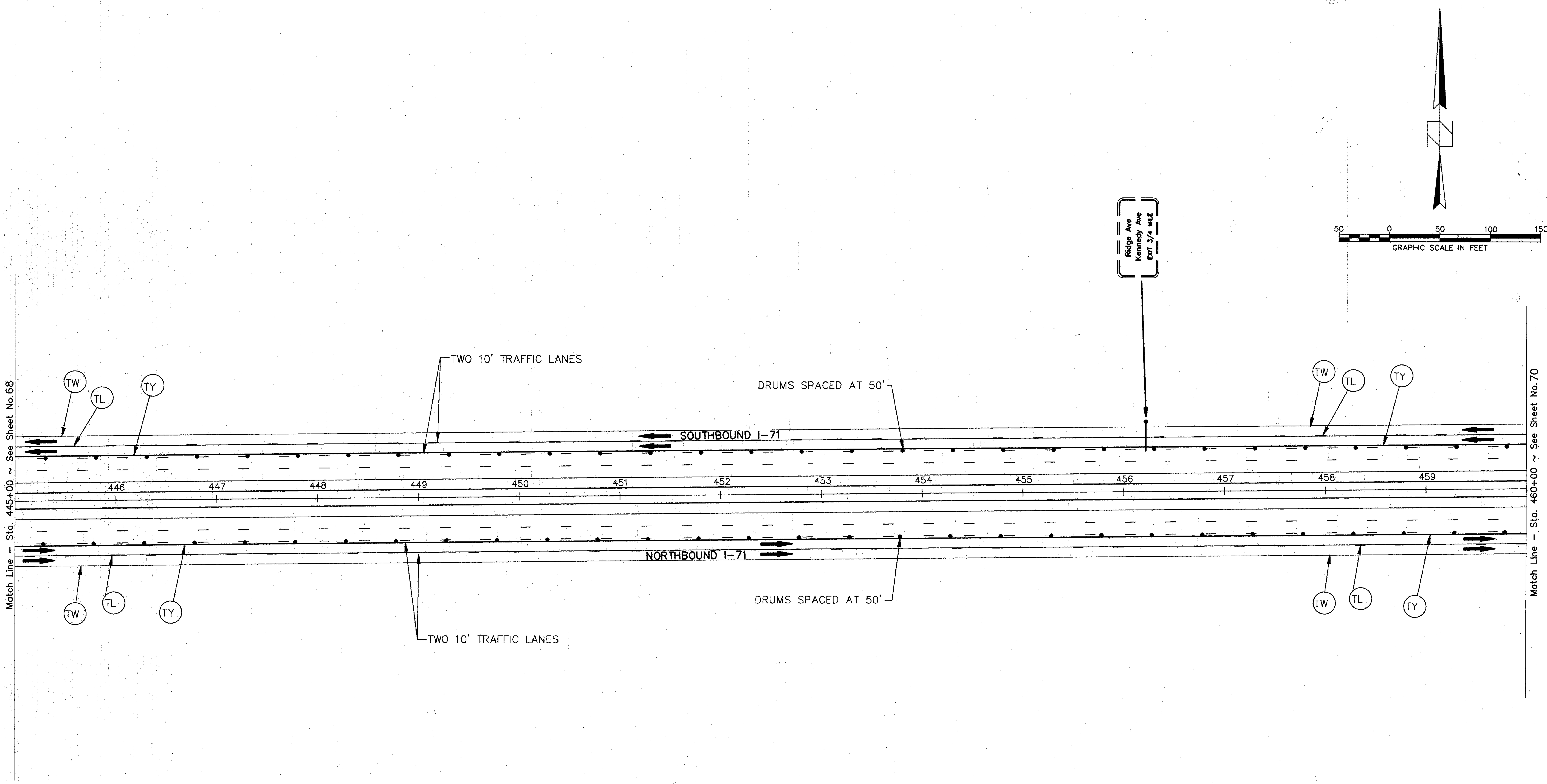
SECTION2 – STAGE 1 CONSTRUCTION

LEGEND

- (TLT) TEMPORARY LANE LINE, CLASS 1, 740.05, TYPE C
- (TCT) TEMPORARY 8" WHITE CHANNELIZING LINE, CLASS 1, 740.05, TYPE C
- (TYT) TEMPORARY YELLOW EDGE LINE, CLASS 1, 740.05, TYPE C
- (TWT) TEMPORARY WHITE EDGE LINE, CLASS 1, 740.05, TYPE C

SECTION 2 – STAGE 2 CONSTRUCTION

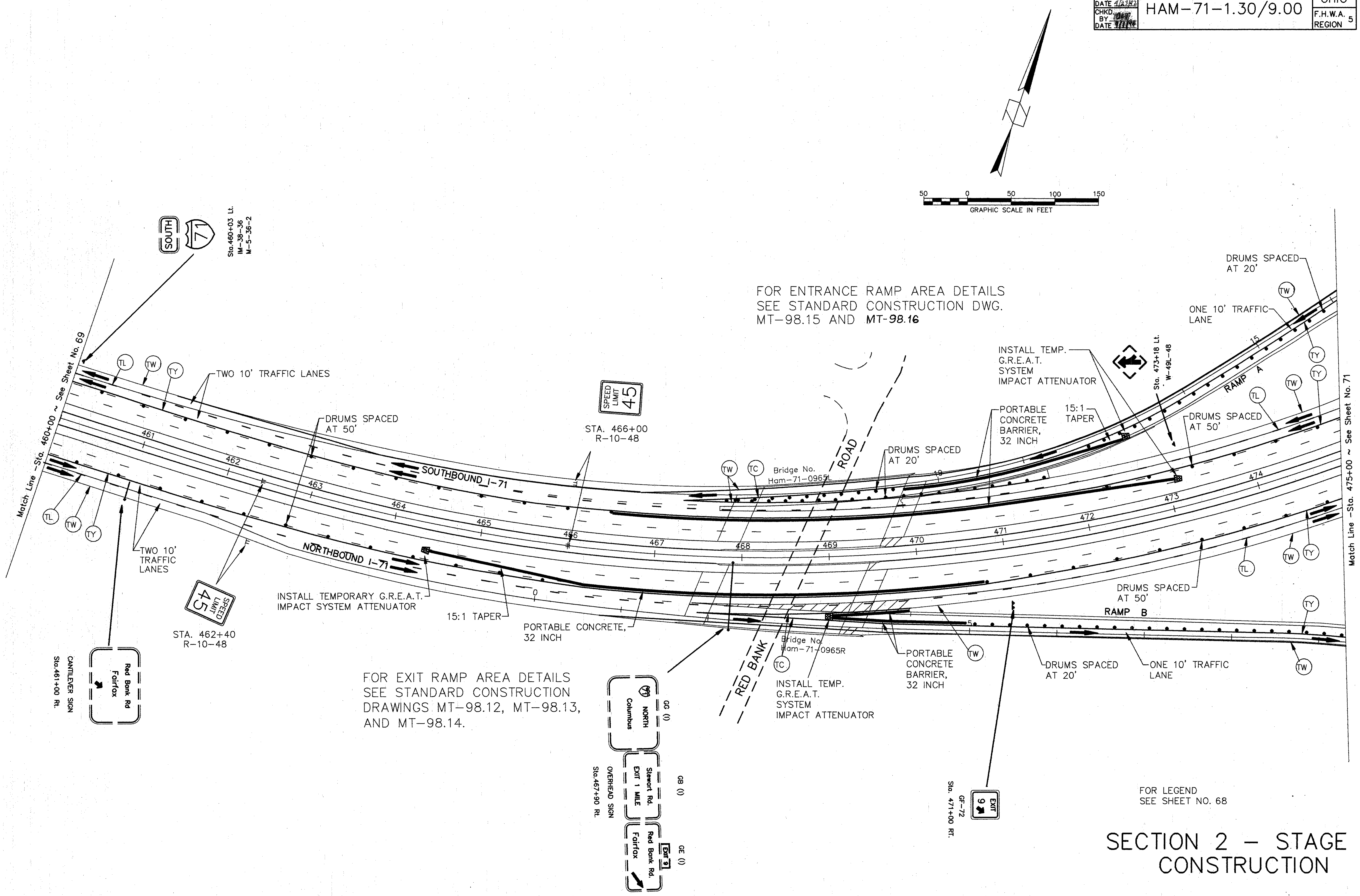
MAINTENANCE OF TRAFFIC DETAILS – STA. 429+00 TO STA. 445+00



FOR LEGEND
SEE SHEET NO. 68

SECTION 2 - STAGE 2
CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS - STA. 445+00 TO STA. 460+00

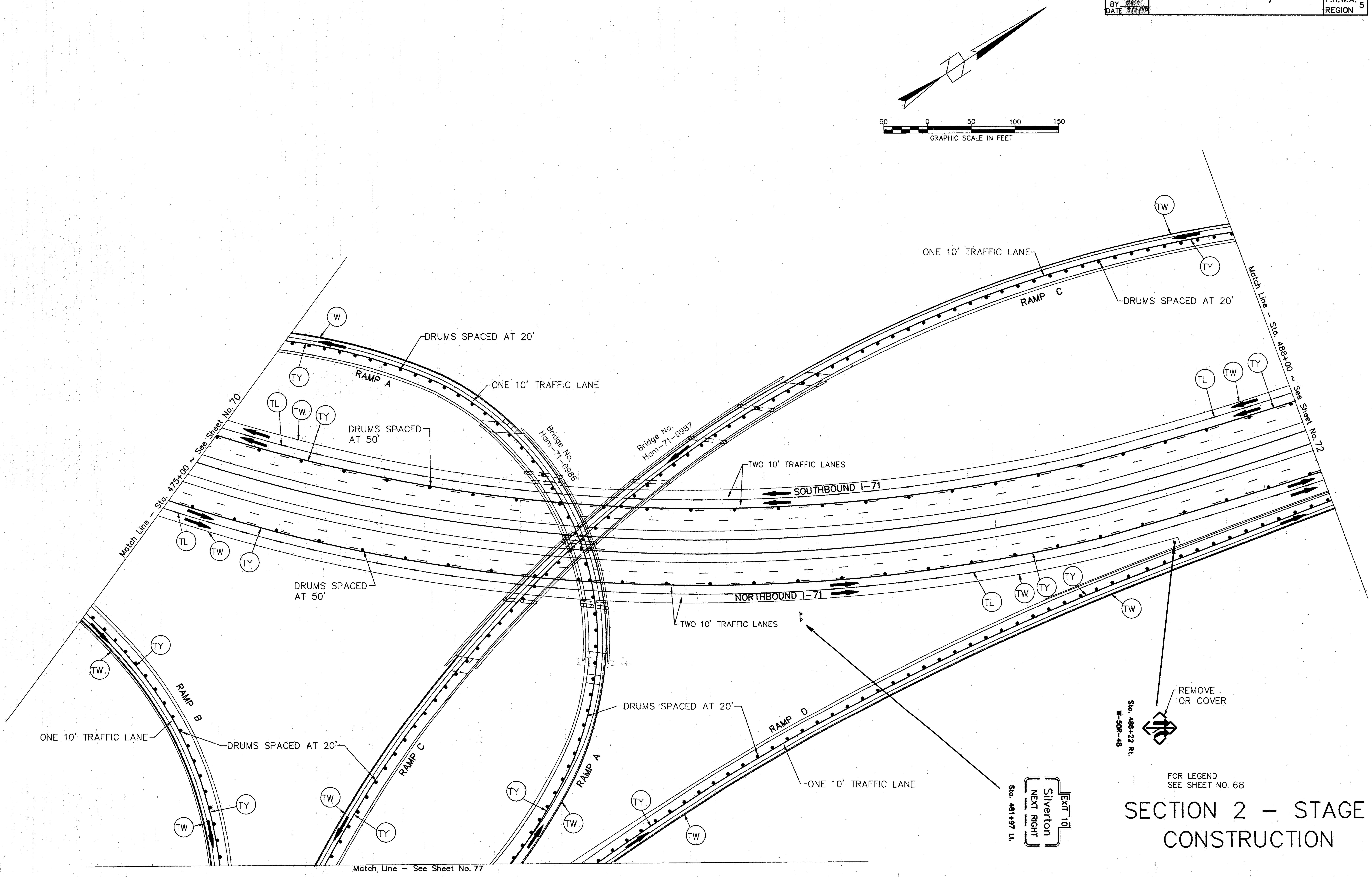


FOR LEGEND SEE SHEET NO. 68

SECTION 2 - STAGE 2 CONSTRUCTION

G:\71\MOT\460-475.dwg - SEPT. 30, 1992

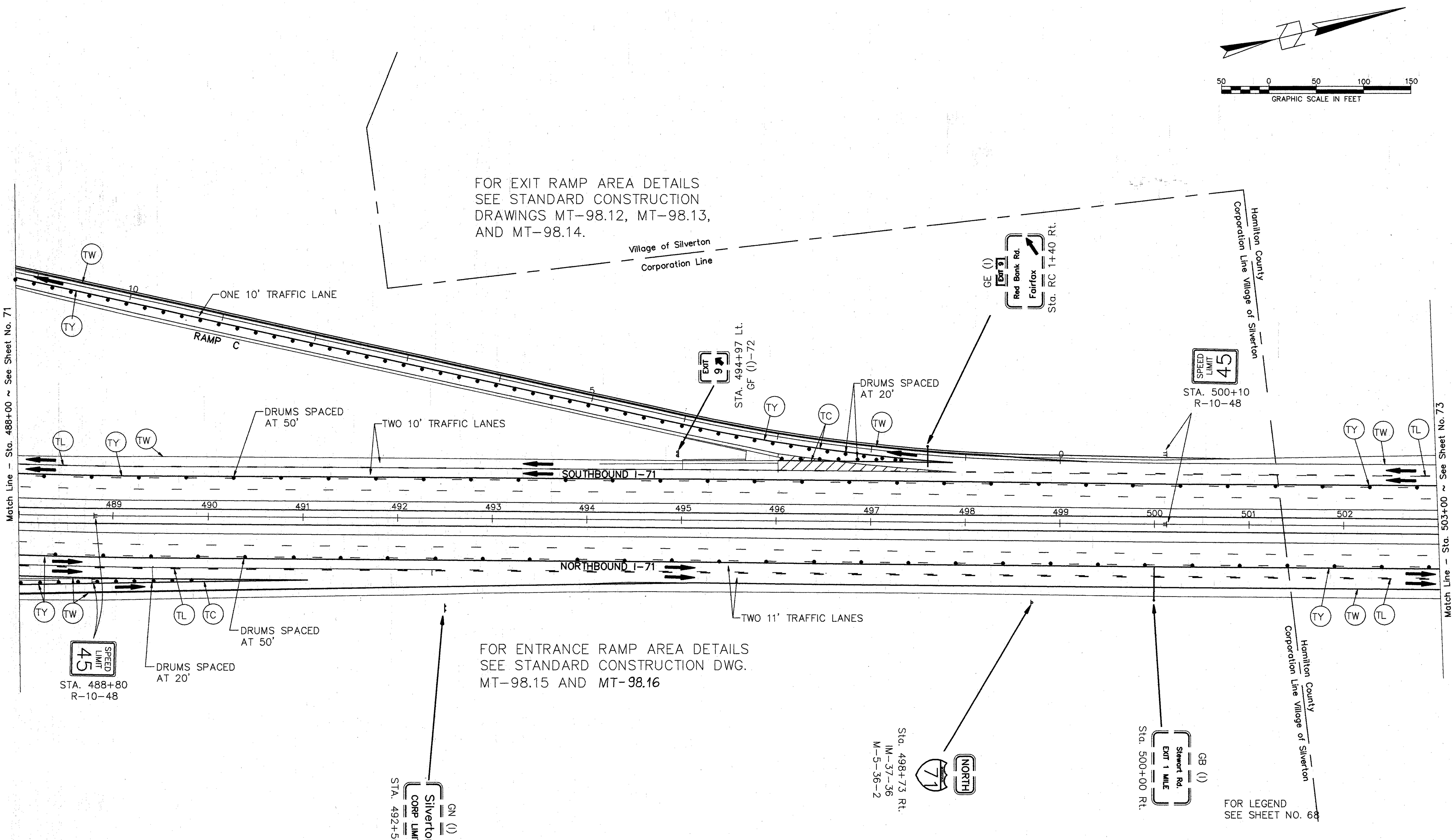
CALC. BY / DATE	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	71 / 401
CHKD. BY / DATE			



FOR LEGEND SEE SHEET NO. 68

SECTION 2 - STAGE 2 CONSTRUCTION

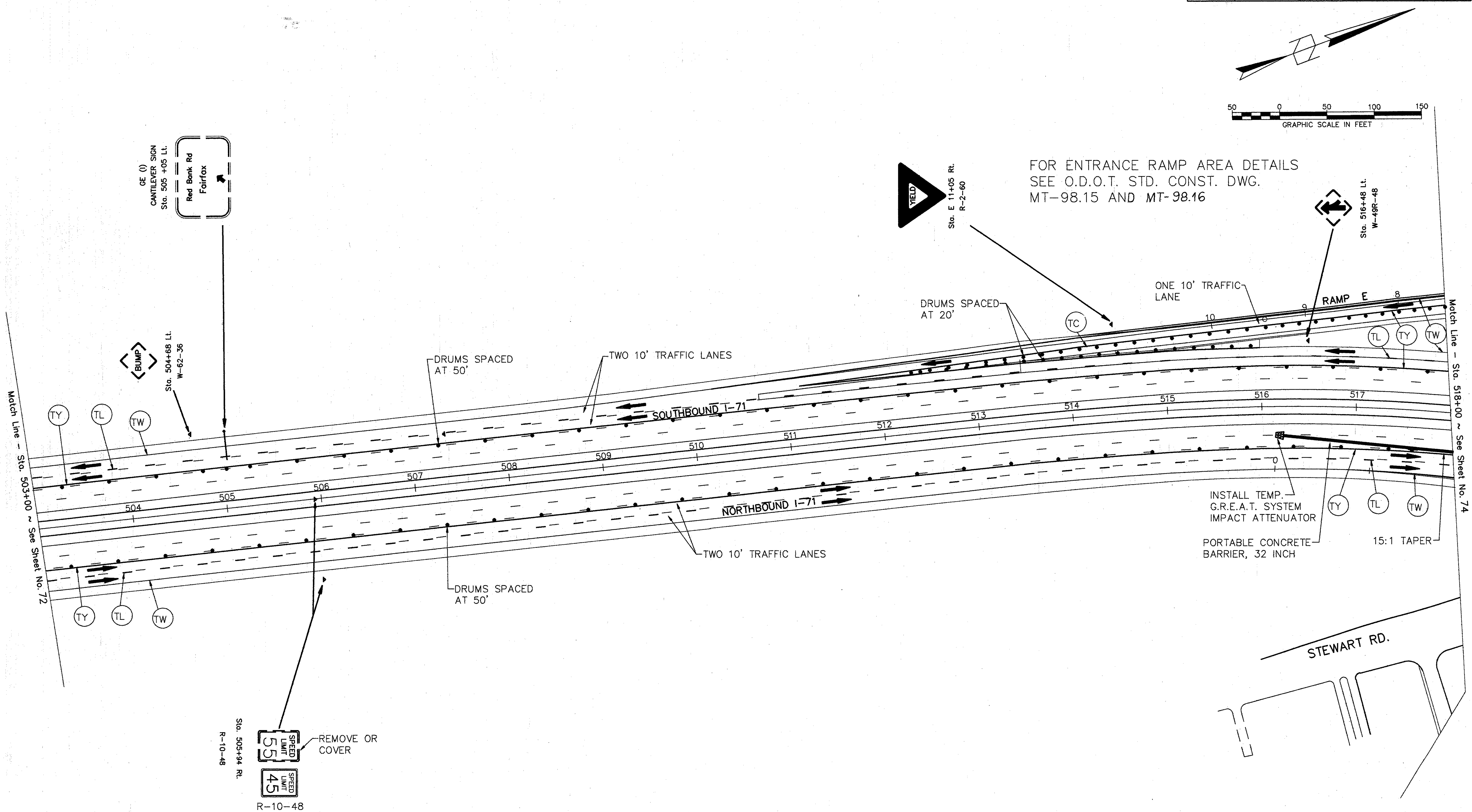
MAINTENANCE OF TRAFFIC DETAILS - STA. 475+00 TO STA. 488+00



SECTION 2 - STAGE 2 CONSTRUCTION

G:\71\MOT\488-503.dwg - SEPT. 30, 1992

MAINTENANCE OF TRAFFIC DETAILS - STA. 488+00 TO STA. 503+00



FOR LEGEND SEE SHEET NO. 68

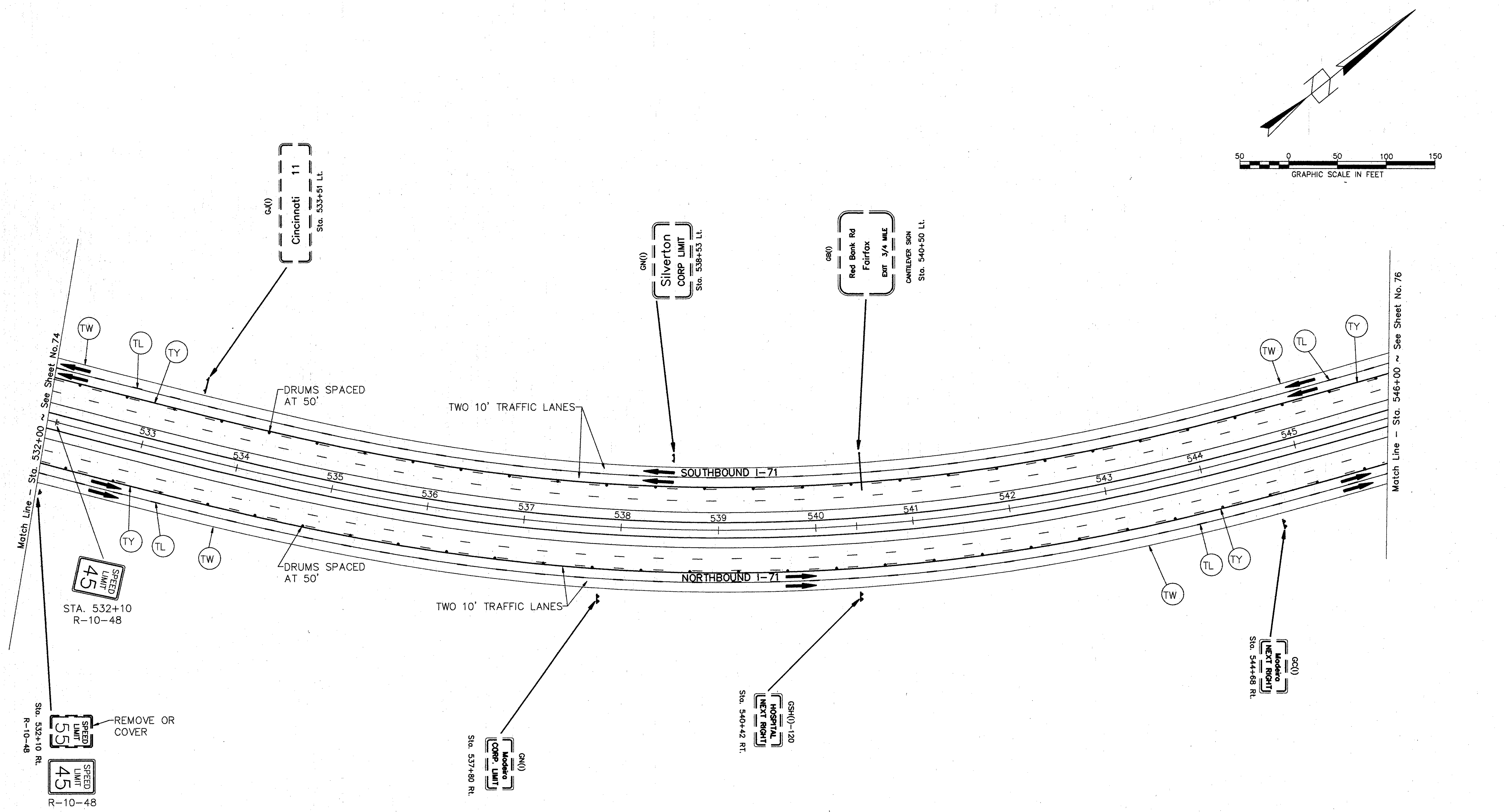
SECTION 2 - STAGE 2 CONSTRUCTION

G:\71\MOT\503-518.dwg - SEPT. 29, 1992

MAINTENANCE OF TRAFFIC DETAILS - STA. 518+00 TO STA. 532+00

HAM-71-1.30/9.00

OHIO F.H.W.A. REGION 5



FOR LEGEND
SEE SHEET NO. 68

SECTION 2 - STAGE 2 CONSTRUCTION

MAINTENANCE OF TRAFFIC DETAILS - STA. 532+00 TO STA. 546+00

CALC. BY / DATE / CHKD. BY / DATE	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	76/401

FOR LEGEND
SEE SHEET NO. 68

SECTION 2 - STAGE 2 CONSTRUCTION

G:\71\MOT\546-561.dwg - OCT. 01, 1992

CALC. BY DATE 9/23/92 | CHKD. BY DLT DATE 9/1/94

HAM-71-1.30/9.00

OHIO F.H.W.A. REGION 5

77/401

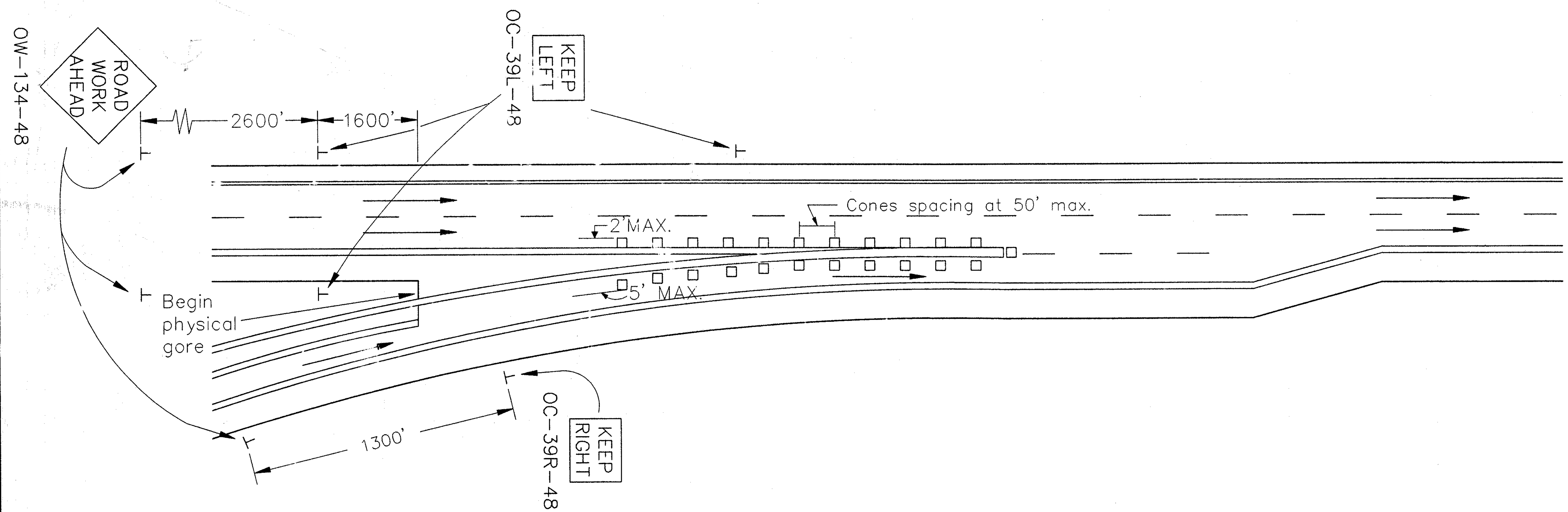
FOR LEGEND SEE SHEET NO. 68

SECTION2 - STAGE 2 CONSTRUCTION

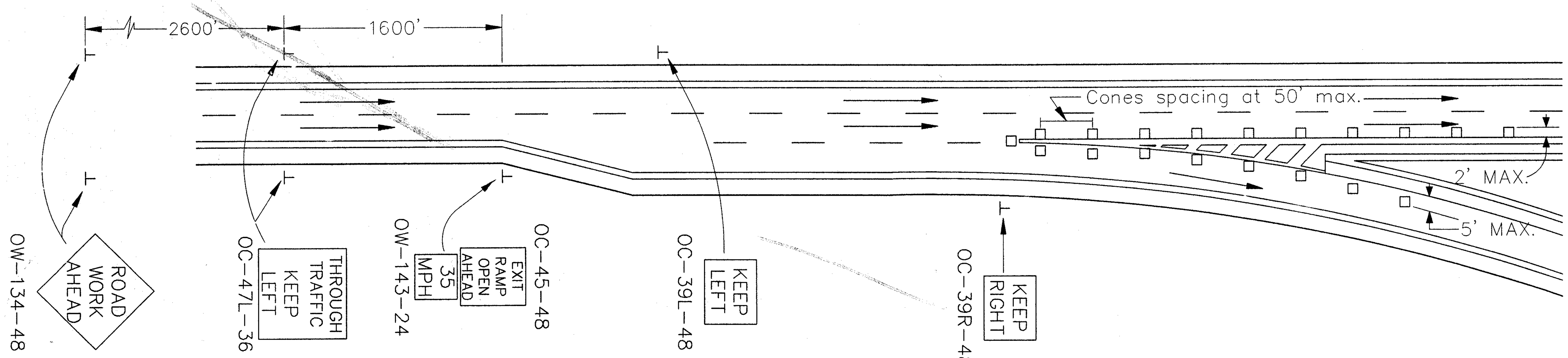
FED. RD. DIVISION	STATE	PROJECT	
5	OHIO		

PLAN NO. HAM-71-1.30/9.00

ENTRANCE GORE TRAFFIC CONTROL



EXIT GORE TRAFFIC CONTROL



GENERAL NOTES

1. THE REQUIREMENTS OF THE "TRAFFIC CONTROL FOR LONG LINE PAVEMENT MARKING OPERATIONS" NOTE SHALL APPLY IN LIEU OF THIS DETAIL WHERE EDGE LINES AND/OR CHANNELIZING LINES ARE SPRAYED IN MOVING OPERATIONS SEPARATE FROM ANY OTHER WORK.
2. WHERE THE WORK IN THE GORE AREA REQUIRES MORE POSITIVE TRAFFIC CONTROL OR OVERNIGHT WORK AREA PROTECTION, THE TRAFFIC CONTROL FOR "LANE CLOSURE AT THE ENTRANCE RAMP" OR "LANE CLOSURE AT EXIT GORE" SHOULD BE EMPLOYED. SEE SHEET STD. CONST. DWGS
3. THE SPACING BETWEEN SIGNS SHOWN ON THIS DETAIL MAY BE ADJUSTED (INCREASED OR DECREASED) WITH THE APPROVAL OF THE ENGINEER TO POSITION THEM NO CLOSER THAN 200 FEET TO EXISTING SIGNS WHICH MUST REMAIN IN USE.
4. AT AN ISOLATED ENTRANCE GORE AREA, A FLASHING ARROW PANEL CONFORMING TO REQUIREMENTS IN STANDARD CONSTRUCTION DRAWING TC 35.10 MAY BE SUBSTITUTED FOR THE ADVANCE OC-39-48 SIGNS.
5. AT AN INTERCHANGE WHERE BOTH EXITS AND ENTRANCES ARE MARKED WITH TRAFFIC CONTROL IN PLACE AT THE SAME TIME, THE OW-134-48 SIGN ON THE ENTRANCE RAMP IS NOT REQUIRED.
6. FOR NIGHT CLOSURES, THE OW-134-48 AND THE OC-47L-36 SIGNS SHALL BE LIGHTED USING TYPE A FLASHING BARRICADE WARNING LIGHT.

OHIO DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL FOR WORK IN GORE AREAS	DATE 1/81
DR	CX

71-2

Rev. EEF PM 10/85

PAVEMENT CALCULATIONS

PAVEMENT AREAS

PAVEMENT FEATHERING (MAINLINE)

BEGIN PROJECT - STA. 133+29 SB TO STA. 135+41.5 SB

MAINLINE - $(36'\times 23'\times 1/2)+(36'\times 73')+\left(70'\times\left(\frac{36'+40'}{2}\right)\right)+(44'\times 48')+\left(\frac{44'\times 28'}{2}\right)\Big]\times 1/9$ = 937 SY

SHOULDER - $\left[86'\left(\frac{3'+10'}{2}\right)+(129'\times 10')+(142'\times 2')\right]\times 1/9$ = 237 SY

SHLDR. WIDENING - $\left[68'\left(\frac{2.5'+1.5'}{2}\right)+(71'\times 1.5')\right]\times 1/9$ = 27 SY

RAMP E - STA. 135+57 NB TO STA. 134+95 SB

MAINLINE - $\left[16'\left(\frac{14'+22'}{2}\right)+111'\left(\frac{16'+18'}{2}\right)+76'\left(\frac{22'+20'}{2}\right)+\left(\frac{22'\times 12'}{2}\right)\right]\times 1/9$ = 434 SY

SHLDR - $\left[(52'\times 3')+86'\left(\frac{3'+2'}{2}\right)+(14'\times 2')+25'\left(\frac{2'+3'}{2}\right)+(175'\times 3')\right]\times 1/9$ = 110 SY

SHLDR. WIDENING - $\left[(52'\times 2.5')+86'\left(\frac{2.5'+1.5'}{2}\right)+14'\left(\frac{2.5'+1.5'}{2}\right)+(175'\times 2.5')\right]\times 1/9$ = 82 SY

NB MAINLINE - STA. 135+65 NB TO STA. 137+77.5 NB

MAINLINE - $36'\times 212.5'\times 1/9$ = 850 SY

SHOULDER - $\left[(10'\times 153')+62'\left(\frac{3'+10'}{2}\right)+32'\left(\frac{3'+5'}{2}\right)+(180.5'\times 5')\right]\times 1/9$ = 329 SY

SHLDR. WIDENING - $\left[57'\left(\frac{2.5'+1.5'}{2}\right)+(155.5'\times 2.5')\right]\times 1/9$ = 56 SY

SUSPEND PROJECT - STA. 213+00 ℄ TO STA. 215+12.5 ℄

MAINLINE - $[(212.5'\times 60')+(212.5'\times 48')]\times 1/9$ = 2550 SY

SHOULDER - $(10'\times 212.5'\times 4)\times 1/9$ = 944 SY

SHLDR WIDENING - $(0.75\times 212.5'\times 2)\times 1/9$ = 35 SY

TOTALS

MAINLINE	2550 SY
SHOULDER	944 SY
SHLDR. WIDENING	35 SY

NORTH & SOUTH BOUND MAINLINE

STA. 137+77.5 NB TO STA. 138+08 NB

$\left[\left(\frac{25'\times 36'}{2}\right)+\left(\frac{39'\times 64'}{2}\right)+64'\left(\frac{39'+35'}{2}\right)\right]\times 1/9$ = 452 SY

STA. 151+59.22 ℄ TO STA 157+78.29 ℄

$\left[(542.28'\times 36')+\left(\frac{63'\times 36'}{2}\right)+210.72'\left(\frac{44'+38'}{2}\right)+100'\left(\frac{38'+36'}{2}\right)+(322.06'\times 36')+\left(\frac{36'\times 63'}{2}\right)\right]\times 1/9$ = 5081 SY

STA. 164+08.74 ℄ TO STA. 167+00 SB

$\left(\frac{67'\times 100'}{2}\right)+\left(\frac{67'+49'}{2}\right)303'+\left(\frac{41'+47'}{2}\right)219'+\left(\frac{47'\times 63'}{2}\right)\Big]\times 1/9$ = 1607 SY

STA. 167+00 SB TO STA 173+00 NB

$\left[\left(\frac{41'+36'}{2}\right)200'+(155'\times 36')+\left(\frac{61'+51'}{2}\right)245'+\left(\frac{49'+48'}{2}\right)33'+(153.03'\times 48')+\left(\frac{48'+36'}{2}\right)100'+(36'\times 116.67')+\left(\frac{36'+38'}{2}\right)196.5'+\left(\frac{14'+16'}{2}\right)100'+\left(\frac{14'+16'}{2}\right)96.5'\right]\times 1/9$ = 6060 SY

STA. 173+00 NB TO STA. 179+00 NB

$\left[(48'\times 100')+\left(\frac{48'+60'}{2}\right)100'+(60'\times 316.49')+\left(\frac{60'+63'}{2}\right)83.51'+\left(\frac{38'+48.22'}{2}\right)450'+\left(\frac{48.22'+52'}{2}\right)152'\right]\times 1/9$ = 6816 SY

PAVEMENT AREAS (CONTINUED)

STA. 179+00 NB TO STA. 183+00 NB

$\left[\left(\frac{63'+87'}{2}\right)307.04'+(58'\times 92.96')+\left(\frac{52'+56'}{2}\right)152'+(36'\times 250.3')\right]\times 1/9$ = 5071 SY

STA. 183+00 NB TO STA. 186+50 NB

$[(58'\times 7.04')+(199.5'\times 48')+(36'\times 325.25')]\times 1/9$ = 2410 SY

STA. 186+50 NB TO STA. 196+50 NB

(BRIDGES & FULL DEPTH PAVEMENT REPLACEMENT)

STA. 196+50 NB TO STA. 203+00 NB

$\left[(60'\times 310.25')+\left(\frac{77.77'+60'}{2}\right)309.3'+(60'\times 235.45')\right]\times 1/9$ = 6005 SY

STA. 203+00 NB TO STA. 208+00 NB

$\left[(60'\times 500')+(60'\times 32')+\left(\frac{60'+48'}{2}\right)100'+(48'\times 367.45')\right]\times 1/9$ = 6106 SY

STA. 208+00 NB TO STA. 213+00 ℄

$[(60'\times 487.5')+(48'\times 487.5')]\times 1/9$ = 5850 SY

TOTAL 45,458 SY

NORTH & SOUTH BOUND SHOULDERS

STA. 137+77.5 NB TO STA. 138+08 NB

10' SHLDR. $10'\left(\frac{78'+84'}{2}\right)\times 1/9$ = 90 SY

5' SHLDR. $\left[5'\left(\frac{35'+32'}{2}\right)+5'\left(\frac{28'+25'}{2}\right)\right]\times 1/9$ = 33 SY

SHLDR. WIDENING $[(1.5'\times 30')+(1.5'\times 34')]\times 1/9$ = 11 SY

STA. 151+59.22 ℄ TO STA. 157+78.29 ℄

10' SHLDR. $\left[(10'\times 538.78')+(7'\times 160.72')+\left(\frac{7'+10'}{2}\right)150'+(10'\times 365.06')+15'\left(\frac{20'+44'}{2}\right)\right]\times 1/9$ = 1324 SY

5' SHLDR. $[5'\times(628.78'+608.78')]\times 1/9$ = 688 SY

SHLDR. WIDENING $[1.5'(628.78'+608.78')]\times 1/9$ = 206 SY

STA. 164+08.74 ℄ TO STA. 167+00 SB

10' SHLDR. $9.25'\left(\frac{397'+412'}{2}\right)\times 1/9$ = 416 SY

$7'\left(\frac{214'+223'}{2}\right)\times 1/9$ = 170 SY

5' SHLDR. $5'\times 291.26'\times 2\times 1/9$ = 324 SY

SHLDR. WIDENING $1.5'\times 291.26'\times 2\times 1/9$ = 97 SY

STA. 167+00 SB TO STA. 173+00 NB

10' SHLDR. $\left[\left(\frac{7'+10'}{2}\right)160'+\left(\frac{21'+11'}{2}\right)195'+(10'\times 245')+(10'\times 197')+\left(\frac{2'+4'}{2}\right)96'+(9.25'\times 185.67')+\left(\frac{9.25'+10'}{2}\right)100'+(10'\times 412.33')\right]\times 1/9$ = 1777 SY

5' SHLDR. $600'\times 5'\times 2\times 1/9$ = 667 SY

SHLDR WIDENING $\left[(1.5'\times 32.64')+\left(\frac{1.5'+0}{2}\right)67.36'\right]\times 1/9$ = 11 SY

STA. 173+00 NB TO STA. 179+00 NB

10' SHLDR. $[(10'\times 600')+(10'\times 608')]\times 1/9$ = 1342 SY

5' SHLDR. $[(5'\times 600')+(5'\times 602')]\times 1/9$ = 668 SY

STA 179+00 NB TO STA. 183+00 NB

10' SHLDR. $[(10'\times 400')+(10'\times 403')]\times 1/9$ = 892 SY

5' SHLDR. $\left[(5'\times 160')+\left(\frac{5'+2'}{2}\right)144.63'+(5'\times 150.82')+\left(\frac{5'+3'}{2}\right)100'+(3'\times 44.18')+144.3'\left(\frac{5'+10'}{2}\right)+(5'\times 108')\right]\times 1/9$ = 468 SY

PAVEMENT AREAS (CONTINUED)

STA. 183+00 NB TO STA. 186+50 NB

10' SHLDR. $[(10'\times 199.5')+(10'\times 200')+(10'\times 321.25')]\times 1/9$ = 801 SY

5' SHLDR. $5'\times 321.25'\times 1/9$ = 178 SY

STA. 186+50 NB TO STA. 196+50 NB

(FULL DEPTH PAVEMENT REPLACEMENT & BRIDGES)

STA. 196+50 NB TO STA. 203+00 NB

10' SHLDR. $[(10'\times(610.25+610.25+628.75+620.3')]\times 1/9$ = 2744 SY

STA. 203+00 NB TO STA. 208+00 NB

10' SHLDR. $[(10'\times 500'\times 2')+(10'\times 493'\times 2)]\times 1/9$ = 2207 SY

STA. 208+00 NB TO STA. 213+00 ℄

10' SHLDR. $[(10'\times 500'\times 2)+(10'\times 499.91'\times 2)]\times 1/9$ = 2222 SY

SHLDR. WIDENING $\left[\left(\frac{0'+1.25'}{2}\right)126'+(1.25'\times 43')\right]\times 1/9$ = 15 SY

TOTALS

10' SHLDR.	13815 SY
5' SHLDR.	3206 SY
SHLDR. WIDENING	394 SY

RAMPS

RAMP B - FROM E. FIFTH STREET TO N.B. I-71

FEATHERING STA. 138+78 B TO STA. 139+07.41 B

MAINLINE $\left(\frac{56'+35'}{2}\right)16'\times 1/9$ = 81 SY

SHLDR. $\left[\left(\frac{62'+56'}{2}\right)4'+\left(\frac{35'+25'}{2}\right)8'\right]\times 1/9$ = 53 SY

RAMP GD - FROM NB READING ROAD TO NB I-71

STA. 156+75 GD TO STA 168+53 GD

FEATHERING $\left(\frac{162'+80'}{2}\right)30'\times 1/9$ = 403 SY

MAINLINE $\left[\left(\frac{26'\times 48'}{2}\right)+\left(\frac{24'+26'}{2}\right)37'+(24'\times 628.69')+\left(\frac{24'+16'}{2}\right)349.31'\right]\times 1/9$ = 2625 SY

4' SHLDR. $\left[\left(\frac{2'+4'}{2}\right)100'+(4'\times 1015')\right]\times 1/9$ = 484 SY

10' SHLDR. $\left[\left(\frac{14'\times 7'}{2}\right)+\left(\frac{7'+10'}{2}\right)84'+(10'\times 978')\right]\times 1/9$ = 1171 SY

RAMP GA - FROM SB I-71 TO SB GILBERT AVENUE

STA. 186+04.24 GA TO STA. 189+90.25 GA

FEATHERING $\left(\frac{14'+15'}{2}\right)68.75'\times 1/9$ = 111 SY

PVMT TRANS. $26'\times 31.25'\times 1/9$ = 90 SY

MAINLINE $\left[\left(\frac{15'+17.25'}{2}\right)31.25'+\left(\frac{15.25'+16'}{2}\right)7.26'+\left(\frac{14'+16'}{2}\right)100'+(16'\times 1948.51')\right]\times 1/9$ = 3699 SY

7' SHLDR. $\left[\left(\frac{2'+7'}{2}\right)92.73'+(7'\times 1948.51')\right]\times 1/9$ = 1562 SY

3' SHLDR. $\left[\left(\frac{2'+3'}{2}\right)100'+(3'\times 1948.51')\right]\times 1/9$ = 677 SY

PAVEMENT AREAS (CONTINUED)

RAMP RB - FROM FLORENCE AVE./EDEN PARK DR. TO SB I-71

STA. 181+98 RB TO STA. 193+84 RB

FEATHERING - $\left[(26'\times 68.75')+\left(\frac{3'\times 3'}{2}\right)+\left(\frac{4'\times 4'}{2}\right)\right]\times 1/9$ = 200 SY

PVMT. TRANS. - $(26'\times 31.25')\times 2\times 1/9$ = 181 SY

$\left(\frac{23'+25'}{2}\right)75'\times 1/9$ = 200 SY

$26'\times 25'\times 2\times 1/9$ APPR. SLAB = 144 SY

MAINLINE - $\left[\left(\frac{16.5'+34'}{2}\right)422.66'+(16'\times 109.34')+(16'\times 162.75')\right]\times 1/9$ = 1670 SY

SHOULDER - $\left[3'(422.66'+422.66'+99.34'+162.75')+\left(\frac{3'+7'}{2}\right)103'+5'(20'+162.75')\right]\times 1/9$ = 528 SY

RAMP RA - FROM SB I-71 TO SB READING ROAD

STA. 186+01.75 RA TO STA. 189+83 RA ±

FEATHERING - $19'\times 68.75'\times 1/9$ = 145 SY

PVMT. TRANS. - $\left(\frac{25'+23.5'}{2}\right)31.25'\times 1/9$ = 84 SY

MAINLINE - $16'\times 282.25'\times 1/9$ = 502 SY

SHOULDER - $\left[(3'\times 282.25')+\left(\frac{0'+5'}{2}\right)217.75'\right]\times 1/9$ = 155 SY

RAMP RC - FROM NB I-71 TO NB READING ROAD

STA. 182+06.63 RC TO STA. 189+78.71 RC

PVMT. TRANS. - $\left(\frac{27'+25'}{2}\right)75'\times 1/9$ = 217 SY

MAINLINE - $\left[\left(\frac{18'+16'}{2}\right)111.46'+\left(\frac{22'+16'}{2}\right)198.51'+\left(\frac{22'+30'}{2}\right)103.6'+\left(\frac{30'+43'}{2}\right)119.02'+\left(\frac{18'+16'}{2}\right)164.49'\right]\times 1/9$ = 1722 SY

SHOULDER - $\left[(7'\times 218.37')+\left(\frac{7'+5'}{2}\right)200'+\left(\frac{5'+3.9'}{2}\right)112.46'\right]\times 1/9$ = 359 SY

RAMP RE - FROM RAMP RC TO EDEN PARK DRIVE

STA. 188+12.46 RE TO STA. 193+55 RE

FEATHERING - $\left[\left(\frac{65'+30'}{2}\right)38'+(30'\times 31')\right]\times 1/9$ = 304 SY

MAINLINE - $\left[\left(\frac{18'+24'}{2}\right)387.54'+(24'\times 86')\right]\times 1/9$ = 1134 SY

SHOULDER - $\left[3'(386'+473.54')+\left(\frac{3.9'+3'}{2}\right)87.54'\right]\times 1/9$ = 320 SY

RAMP RF - FROM SB READING RD/EDEN PARK DR TO SB I-71

STA. 186+96.78 RF TO STA. 193+88.5 RF

FEATHERING - $\left[(26'\times 69')+\left(\frac{12'\times 26'}{2}\right)+(26'\times 18')+\left(\frac{26'\times 23'}{2}\right)+\left(\frac{23'\times 7.5'}{2}\right)+\left(\frac{5'\times 6'}{2}\right)\right]\times 1/9$ = 313 SY

MAINLINE - $\left[\left(\frac{14'+16'}{2}\right)100'+\left(\frac{14'+16'}{2}\right)128.33'+(16'\times 366.37')+\left(\frac{28'+23'}{2}\right)28.27'\right]\times 1/9$ = 1112 SY

SHOULDER - $\left[(7'\times 166.48')+\left(\frac{7'+3'}{2}\right)199.89'+(3'\times 128.33')+\left(\frac{2'+3'}{2}\right)100'+(3'\times 422.97')\right]\times 1/9$ = 452 SY

PAVEMENT CALCULATIONS

PAVEMENT AREAS

RAMPS (CONTINUED)

RAMP RD - FROM NB READING RD. TO NB I-71

STA. 175 + 23.5RD TO STA. 185+07 RD

PVMT. TRANS. - $\left[\left(\frac{29'+31'}{2}\right)32.5' + 31.25'\left(\frac{68'+72'}{2}\right)\right] \times 1/9$ = 351 SY

PVMT. TRANS. @ I-71 - $\left(\frac{29'+32'}{2}\right)75' \times 1/9$ = 254 SY

MAINLINE - $\left[\left(\frac{50'+120'}{2}\right)\left(\frac{29'+31'}{2}\right) + \left(\frac{0'+2'}{2}\right)65' + (29' \times 91.65') + \left(\frac{29'+17'}{2}\right)216.85'\right] \times 1/9$ = 1140 SY

SHOULDER - $\left[\left(\frac{2'+4'}{2}\right)91.65' + \left(\frac{2'+10'}{2}\right)160' + (10' \times 157') + \left(\frac{4'+3.75'}{2}\right)36'\right] \times 1/9$ = 300 SY

TOTALS

MAINLINE	13,685 SY
SHOULDER	6,061 SY
FEATHERING	4433 SY
PAVEMENT TRANS.	1521 SY

SIDE STREET & MISCELLANEOUS

NB I-471 TO NB I-71

STA. 157+30.44N TO STA. 158+95N

FEATHERING - $(27.6' \times 106.25') \times 1/9$ = 326 SY

MAINLINE - $\left(\frac{65'+38'}{2}\right)16' \times 1/9$ = 92 SY

SHOULDER - $\left[\left(\frac{7'+8.25'}{2}\right)43' + \left(\frac{32'+19'}{2}\right)8.25' + \left(\frac{38'+30'}{2}\right)5'\right] \times 1/9$ = 79 SY

NB & SB GILBERT AVENUE (BRIDGE HAM-22-0145)

APPROACH SLAB REMOVAL & REPLACEMENT

$[(67' \times 25' \times 2) + (63' \times 25' \times 2)] \times 1/9$ = 722 SY

ELSINORE PLACE (BRIDGE HAM-71-0221)

APPROACH SLAB REMOVAL & REPLACEMENT

$\left[(25' \times 52') + \left(\frac{27'+15'}{2}\right)18' + \left(\frac{72'+95'}{2}\right)25'\right] \times 1/9$ = 418 SY

McGREGOR AVENUE (BRIDGE HAM-71-0289)

FEATHERING ACROSS THE APPROACH SLAB

$\left(\frac{36'+66'}{2}\right) \times 25' \times 1/9$ = 142 SY

APPROACH SLAB REMOVAL & REPLACEMENT

$(25' \times 36') \times 1/9$ = 100 SY

NB READING ROAD TO EDEN PARK DR. INTERSECTION

STA. 13+14 NBR TO STA. 32+04 NBR

FEATHERING - $\left[\left(\frac{36'+40'}{2}\right)68.75' + \left(\frac{85'+107'}{2}\right)20' + \left(\frac{4'+16'}{2}\right)15' + \left(\frac{16' \times 30'}{2}\right) + \left(\frac{76'+49'}{2}\right)25' + \left(\frac{3'+15'}{2}\right)17' + \left(\frac{15' \times 23'}{2}\right) + (36' \times 68.75') + \left(\frac{32' \times 27'}{2}\right)\right] \times 1/9$ = 1080 SY

PVMT. TRANS. - $\left[(25' \times 31.25') + (29' \times 31.25') + \left(\frac{10' \times 4'}{2}\right)\right] \times 1/9$ = 190 SY

MAINLINE - $\left[\left(\frac{40'+56'}{2}\right)105' + \left(\frac{44' \times 56'}{2}\right) + (25' \times 693.55') \left(\frac{36'+45'}{2}\right)234.6' + (36' \times 119.35')\right] \times 1/9$ = 4161 SY

PAVEMENT AREAS

FULL DEPTH PAVEMENT REPLACEMENT

STA. 138+08NB TO STA. 139+58.35NB

MAINLINE - $\left[\left(\frac{65.5'+55.5'}{2}\right)137.5' + (36' \times 137.5')\right] \times 1/9$ = 1474 SY

SHOULDER - $[(10' \times 137.5' \times 2) + (4.25' + 6.25')137.5'] \times 1/9$ = 160 SY

APPR. SLAB - $\left[(36' \times 25') + \left(\frac{55.5'+54'}{2}\right)25'\right] \times 1/9$ = 252 SY

WIDENED APPR. SLAB - $\left[(4.25' + 6.25')25' + 2\left(\frac{10'+9'}{2}\right)25'\right] \times 1/9$ = 82 SY

STA. 149+96.72 ℄ TO STA. 151+59.22 ℄

MAINLINE - $\left[\left(\frac{45'+44'}{2}\right)137.5' + (36' \times 137.5')\right] \times 1/9$ = 1350 SY

SHOULDER - $\left[(7'+10')137.5' + \left(\frac{6.25'+6.42'}{2}\right)50' + \left(\frac{5.5'+6.25'}{2}\right)50' + (6.25' \times 87.5' \times 2)\right] \times 1/9$ = 449 SY

APPR. SLAB - $\left[(25' \times 36') + \left(\frac{45'+44.5'}{2}\right)25'\right] \times 1/9$ = 224 SY

WIDENED APPR. SLAB - $\left(\frac{10'+9'}{2}\right)25' + (6.42' + 5.5')25' + (7' \times 25')] \times 1/9$ = 79 SY

STA. 157+78.29 ℄ TO STA. 159+40.79 ℄

MAINLINE - $\left((36' \times 137.5' \times 2) + \left(\frac{21.5' \times 16'}{2}\right) + \left(\frac{16'+14'}{2}\right)85' + \left(\frac{16'+15'}{2}\right)\left(\frac{61'+38'}{2}\right)\right] \times 1/9$ = 1346 SY

SHOULDER - $\left[(10' \times 137.5') + \left(\frac{6.25'+6.42'}{2}\right)50' + \left(\frac{5.5'+6.25'}{2}\right)50' (6.25' \times 87.5' \times 2) + \left(\frac{14' \times 24'}{2}\right) + \left(\frac{14'+11'}{2}\right)133' + \left(\frac{11' \times 14'}{2}\right) + \left(\frac{4'+2'}{2}\right)110' + (8.25' \times 75') + \left(\frac{8.25'+7'}{2}\right)65'\right] \times 1/9$ = 715 SY

APPR. SLAB - $\left[\left(\frac{22' \times 13'}{2}\right)4 + (13' \times 50')2 + \left(\frac{21 \times 13}{2}\right)2 + (13' \times 7')\right] \times 1/9$ = 248 SY

WIDENED APPR. SLAB - $\left[\left(\frac{2'+7'}{2}\right)7' + (15' \times 7') + \left(\frac{7' \times 9.5'}{2}\right) + \left(\frac{2'+12'}{2}\right)17' + (12' \times 5.5') + \left(\frac{11.5' \times 18.5'}{2}\right) + \left(\frac{6.5' \times 11.5'}{2}\right) + (14' \times 6.5') + \left(\frac{6.5'+2'}{2}\right)7.5' + \left(\frac{8.5' \times 5'}{2}\right) + (15' \times 5') + \left(\frac{2'+5'}{2}\right)5' + \left(\frac{18.5' \times 10'}{2}\right) + (8.5' \times 10') + \left(\frac{10'+2'}{2}\right)14'\right] \times 1/9$ = 111 SY

STA. 162+46.24 ℄ TO STA. 164+08.74 ℄

MAINLINE - $\left[\left(\frac{70' \times 51'}{2}\right) + \left(\frac{51'+49'}{2}\right)67' + \left(\frac{64' \times 49'}{2}\right) + \left(\frac{22'+71'}{2}\right)71' + \left(\frac{71'+70'}{2}\right)35' + \left(\frac{102' \times 70'}{2}\right)\right] \times 1/9$ = 1782 SY

SHOULDER - $\left[(7' \times 137.5') + (12' \times 6.42') + (26' \times 5.5') + \left(\frac{6.25'+6.42'}{2}\right)50' \left(\frac{6.25'+5.5'}{2}\right)50' + (84'+71')6.25' + \left(\frac{5'+9.25'}{2}\right)53' + \left(\frac{39'+53'}{2}\right)9.25'\right] \times 1/9$ = 396 SY

APPR. SLAB - $\left[\left(\frac{14.5' \times 18.5'}{2}\right) + (14.5' \times 69') + \left(\frac{14.5' \times 21'}{2}\right)3 + (14.5' \times 63') + (19' \times 25')\right] \times 1/9$ = 230 SY

WIDENED APPR. SLAB - $[(7' \times 25') + (6.42' \times 25') + (5.5' \times 25') + (5' \times 25')] \times 1/9$ = 66 SY

STA. 185+06.54 NB TO STA. 186+69.04 NB

MAINLINE - $\left[(48' \times 137.5') + \left(\frac{42'+45'}{2}\right)15' + \left(\frac{16'+14'}{2}\right)96'\right] \times 1/9$ = 966 SY

SHOULDER - $\left[(137.5' \times 10' \times 2) + \left(\frac{2'+3'}{2}\right)41' + \left(\frac{20'+10'}{2}\right)137.5'\right] \times 1/9$ = 542 SY

PAVEMENT AREAS

FULL DEPTH PAVEMENT REPLACEMENT (CONTINUED)

APPR. SLAB - $\left(\frac{73'+74'}{2}\right)25' \times 1/9$ = 204 SY

WIDENED APPR. SLAB - $10' \times 25' \times 2 \times 1/9$ = 56 SY

STA. 186+25.25 SB TO STA. 187+87.75 SB

MAINLINE - $36' \times 137.5' \times 1/9$ = 550 SY

SHOULDER - $(10'+5')137.5' \times 1/9$ = 229 SY

APPR. SLAB - $36' \times 25' \times 1/9$ = 100 SY

WIDENED APPR. SLAB - $\left[\left(\frac{10'+9'}{2}\right)25' + (5' \times 25')\right] \times 1/9$ = 40 SY

STA. 195+42.75 SB TO STA. 197+55.25 SB

MAINLINE - $\left[\left(\frac{45'+46'}{2}\right)92.36' + \left(\frac{29'+30'}{2}\right)95' + \left(\frac{80'+77'}{2}\right)45.14'\right] \times 1/9$ = 1172 SY

SHOULDER - $\left[\left(\frac{5.5'+10'}{2}\right)137.5' + \left(\frac{7'+10'}{2}\right)137.5'\right] \times 1/9$ = 248 SY

APPR. SLAB - $(45'+29')25' \times 1/9$ = 206 SY

WIDENED APPR. SLAB - $\left[\left(\frac{5'+5.5'}{2}\right)25' + (7' \times 25')\right] \times 1/9$ = 34 SY

STA. 198+27.25 NB TO STA. 199+89.75 NB

MAINLINE - $60' \times 137.5' \times 1/9$ = 917 SY

SHOULDER - $\left[\left(\frac{9.5'+10'}{2}\right)25' + (10' \times 112.5') + \left(\frac{9.2'+10'}{2}\right)97.75' + (10' \times 39.75')\right] \times 1/9$ = 301 SY

WIDENED APPR. SLAB - $\left[\left(\frac{9'+9.5'}{2}\right)25' + \left(\frac{9'+9.2'}{2}\right)25'\right] \times 1/9$ = 51 SY

APPR. SLAB - $25' \times 60' \times 1/9$ = 167 SY

STA 135+65NB TO STA. 138+08NB

STA 133+29SB TO STA. 136+19SB ±

STA. 135+57NB TO STA 134+95SB (RAMP E)

SB MAINLINE $(36' \times 23' \times 1/2) + (36' \times 73') + \left(70' \times \left(\frac{36'+40'}{2}\right)\right) + (44' \times 48') + \left(\frac{44' \times 28'}{2}\right)] \times 1/9$ = 937 SY

SHOULDER $\left[86'\left(\frac{3'+10'}{2}\right) + (129' \times 10') + (142' \times 2)\right] 1/9$ = 237 SY

SHLDR WIDE $\left[68'\left(\frac{2.5'+1.5'}{2}\right) + (71' \times 1.5')\right] \times 1/9$ = 27 SY

RAMP E

MAINLINE $\left[16'\left(\frac{14'+22'}{2}\right) + 111'\left(\frac{16'+18'}{2}\right) + 76'\left(\frac{22'+20'}{2}\right) + \left(\frac{22' \times 12'}{2}\right)\right] \times 1/9$ = 434 SY

SHOULDER $\left[(52' \times 3') + 86'\left(\frac{3'+2'}{2}\right) + (14' \times 2') + 25'\left(\frac{2'+3'}{2}\right) + (175' \times 3')\right] \times 1/9$ = 110 SY

SHLDR WIDE $(52' \times 2.5') + 86'\left(\frac{2.5'+1.5'}{2}\right) + 14'\left(\frac{2.5'+1.5'}{2}\right) + (175' \times 2.5')] \times 1/9$ = 82 SY

NB MAINLINE $36' \times 212.5' \times 1/9$ = 850 SY

SHOULDER $\left[(10' \times 153') + 62'\left(\frac{3'+10'}{2}\right) + 32'\left(\frac{3'+5'}{2}\right) + (180.5' \times 5')\right] \times 1/9$ = 329 SY

SHLDR WIDE $57'\left(\frac{2.5'+1.5'}{2}\right) + (155.5' \times 2.5')] \times 1/9$ = 56 SY

PAVEMENT AREAS

FULL DEPTH PAVEMENT REPLACEMENT (CONTINUED)

MAINLINE $\left[\left(\frac{57'+16'}{2}\right)64' + \left(\frac{7' \times 12'}{2}\right) + (63' \times 19') + (18' \times 18') + \left(\frac{18'+6'}{2}\right)17'\right] \times 1/9$ = 456 SY

SHOULDER $\left[\left(\frac{64'+57'}{2}\right)10' + \left(\frac{16'+14'}{2}\right)3' + \left(\frac{11'+7'}{2}\right)5' + (10' \times 19') + \left(\frac{6' \times 10'}{2}\right) + (18' \times 5') + (18' \times 3')\right] \times 1/9$ = 118 SY

SHLDR. WIDE $[(11'+18')1.5' + (15'+18')2.5'] \times 1/9$ = 14 SY

TOTALS

MAINLINE	12,234 SY
SHOULDER	4,013 SY
APPROACH SLAB	1631 SY
WIDENED APPR SLAB	358 SY

LYTLE TUNNEL WORK

NB I-71	STA 127+10NB TO STA. 135+80NB ±			
	$870' \times 42' \times 1/9$	36540 SF	OR	4060 SY
SB I-71	STA. 125+40SB TO STA. 133+41.5SB ±			
	$801.5' \times 42' \times 1/9$	33663 SF	OR	3740 SY
RAMP E	STA. 126+82E TO STA. 135+56NB ±			
	$846' \times 22' \times 1/9$	18612 SF	OR	2068 SY
	TOTALS	88815 SF	OR	9868 SY

PAVEMENT CALCULATIONS

ITEM 202 - PAVEMENT REMOVED

FULL DEPTH PAVEMENT REPLACEMENT	= 12234 SY

ITEM 203 - SUBGRADE COMPACTION

FULL DEPTH PAVEMENT REPLACEMENT

MAINLINE	= 12234 SY
SHOULDER	= 4013 SY
TOTAL	16,247 SY

ITEM 301 - 3" BITUMINOUS AGGREGATE BASE, AC-20

MAINLINE	45,458 SY × 9 SF/SY × 0.25' × 1/27	= 3788 CY
5' SHLDRS (ML)	3206 SY × 9 SF/SY × 0.25' × 1/27	= 267 CY
10' SHLDRS (ML)	13,815 SY × 9 SF/SY × 0.25' × 1/27	= 1151 CY
PVMT. TRANS @ RAMPS	1538 SY × 9 SF/SY × 0.1875' × 1/27	= 96 CY
FEATHERING (ML)	2550 SY × 9 SF/SY × 0.125' × 1/27	= 106 CY
FEATHERING (SHLDR)	944 SY × 9 SF/SY × 0.125' × 1/27	= 39 CY
	TOTAL	5447 CY

ITEM 301 - 6" BITUMINOUS AGGREGATE BASE, AC-20

FULL DEPTH PAVEMENT REPLACEMENT

SHOULDER	4013 SY × 9 SF/SY × 0.5' × 1/27	= 669 CY

ITEM 301 - 9" BITUMINOUS AGGREGATE BASE, AC-20

FULL DEPTH PAVEMENT REPLACEMENT

MAINLINE	12,234 SY × 9 SF/SY × 0.75' × 1/27	= 3059 CY

ITEM 304 - 9" AGGREGATE BASE, AS PER PLAN

FULL DEPTH PAVEMENT REPLACEMENT

MAINLINE	12,234 SY × 9 SF/SY × 0.75' × 1/27	= 3059 CY

ITEM 304 - AGGREGATE BASE, AS PER PLAN (VARIABLE DEPTH)

FULL DEPTH PAVEMENT REPLACEMENT

SHOULDER	4013 SY × 9 SF/SY × $\left(\frac{0.5'+1.0'}{2}\right)$ × 1/27	= 1003 CY

ITEM 202 - CURB REMOVED

FULL DEPTH PAVEMENT REPLACEMENT

STA. 135+92.6 NB TO STA. 139+58.35 NB (RT)	= 365.8 LF
STA. 157+78.29 ℄ TO STA. 159+40.79 ℄ (RT)	= 127 LF
STA. 185+06.54 NB TO STA. 186+69.04 NB	= 128 LF
STA. 195+42.75 SB TO STA. 197+55.25 SB (LT)	= 137.5 LF
STA. 198+27.25 NB TO STA. 199+89.75 NB (RT)	= 59 LF
TOTAL	817 LF

ITEM 407 - TACK COAT (APPLICATION RATE 0.075 GAL/SY)

PAVEMENT FEATHERING (ML)	2550 SY × 0.075 GAL/SY	= 191 GAL
(SHLDR)	944 SY × 0.075 GAL/SY	= 71 GAL
	200 SY × 0.075 GAL/SY	= 15 GAL
MAINLINE	45,458 SY × 0.075 GAL/SY	= 3409 GAL
MAINLINE SHOULDERS	17,021 SY × 0.075 GAL/SY	= 1277 GAL
RAMPS FEATHERING	4433 SY × 0.075 GAL/SY	= 333 GAL
MAINLINE	13,685 SY × 0.075 GAL/SY	= 1026 GAL
SHOULDERS	6061 SY × 0.075 GAL/SY	= 455 GAL
PVMT. TRANS.	1521 SY × 0.075 GAL/SY	= 114 GAL
SIDE STREETS & MISC.	6588 SY × 0.075 GAL/SY	= 494 GAL
MAINLINE SHLDRS WIDENED	394 SY × 0.075 GAL/SY	= 30 GAL
FULL DEPTH PAVEMENT REPLACEMENT		
MAINLINE	12234 SY × 0.075 GAL/SY	= 918 GAL
SHOULDERS	4013 SY × 0.075 GAL/SY	= 301 GAL
LYTEL TUNNEL WORK	9868 SY × 0.075 GAL/SY	= 740 GAL
	TOTAL	9374 GAL

ITEM 408 - BITUMINOUS PRIME COAT

FULL DEPTH PVMT REPLACEMENT (12234 + 4013) SY × 0.25 GAL/SY = 4062 GAL

ITEM 446 - 1¼" ASPHALT CONCRETE, SURFACE COURSE, TYPE 1, AC-20

MAINLINE	45,458 SY × 9 SF/SY × 0.1042' × 1/27	= 1579 CY
SHOULDER	17,021 SY × 9 SF/SY × 0.1042' × 1/27	= 591 CY
SHLDR. WIDENED	394 SY × 9 SF/SY × 0.1042' × 1/27	= 14 CY
FEATHERING (ML)	2550 SY × 9 SF/SY × 0.1042' × 1/27	= 89 CY
SHOULDER	944 SY × 9 SF/SY × 0.1042' × 1/27	= 33 CY
SHLDR. WIDENED	200 SY × 9 SF/SY × 0.1042' × 1/27	= 7 CY
RAMPS (ML)	13,685 SY × 9 SF/SY × 0.1042' × 1/27	= 475 CY
SHOULDER	6061 SY × 9 SF/SY × 0.1042' × 1/27	= 211 CY
FEATHERING	4433 SY × 9 SF/SY × 0.0521' × 1/27	= 77 CY
PVMT. TRANS	1521 SY × 9 SF/SY × 0.1042' × 1/27	= 53 CY
NB I-471 (FEATHERING)	326 SY × 9 SF/SY × 0.0521' × 1/27	= 6 CY
(ML & SHLDR)	171 SY × 9 SF/SY × 0.1042' × 1/27	= 6 CY
McGREGOR AVE. (FEATHERING)	142 SY × 9 SF/SY × 0.0625' × 1/27	= 3 CY
READING RD. (ML & PVMT. TRANS)	4351 SY × 9 SF/SY × 0.1042' × 1/27	= 151 CY
(FEATHERING)	1080 SY × 9 SF/SY × 0.0521' × 1/27	= 19 CY
LYTEL TUNNEL WORK	88815 SF × 0.1042' × 1/27	= 342 CY
	TOTAL	3656 CY

ITEM 446 - 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, AC-20

FULL DEPTH PAVEMENT REPLACEMENT

MAINLINE	12234 SY × 9 SF/SY × 0.125' × 1/27	= 510 CY
SHOULDER	4013 SY × 9 SF/SY × 0.125' × 1/27	= 167 CY
	TOTAL	677 CY

ITEM 446 - 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, AC-20

FULL DEPTH PAVEMENT REPLACEMENT

MAINLINE	12234 SY × 9 SF/SY × 0.2083' × 1/27	= 849 CY
SHOULDER	4013 SY × 9 SF/SY × 0.2083' × 1/27	= 279 CY
	TOTAL	1128 CY

ITEM 446 - 1½" ASPHALT CONCRETE, INTERMEDIATE COURSE, TYPE 2, AC-20

RAMPS FEATHERING	4433 SY × 9 SF/SY × 0.36 × 0.1042' × 1/27	= 55 CY
MAINLINE	13685 SY × 9 SF/SY × 0.125' × 1/27	= 570 CY
SHOULDER	6061 SY × 9 SF/SY × 0.125' × 1/27	= 253 CY
READING RD. (ML)	4161 SY × 9 SF/SY × 0.125' × 1/27	= 173 CY
FEATHERING	1080 SY × 9 SF/SY × 0.36 × 0.1042' × 1/27	= 45 CY
PVMT. TRANS.	190 SY × 9 SF/SY × 0.80 × 0.1042' × 1/27	= 5 CY
RAMP PVMT. TRANS.	724 SY × 9 SF/SY × 0.80 × 0.1042' × 1/27	= 20 CY
NB I-471 (ML & SHLDR)	171 SY × 9 SF/SY × 0.125' × 1/27	= 7 CY
	TOTAL	1128 CY

NOTE: VALUES 0.36 & 0.80 REPRESENT THE PERCENT AREA THE ABOVE ITEM COVERS RELATIVE TO THE TOTAL.

ITEM 609 - CURB, TYPE 6

FULL DEPTH PAVEMENT REPLACEMENT

STA. 138+08 NB TO STA. 139+58.35 NB (RT)	= 128 LF
STA. 157+78.29 ℄ TO STA. 159+40.79 ℄ (RT)	= 127 LF
STA. 185+06.54 NB TO STA. 186+69.04 NB	= 128 LF
STA. 195+42.75 SB TO STA. 197+55.25 SB (LT)	= 137.5 LF
STA. 198+27.25 NB TO STA. 199+89.75 NB (RT)	= 59 LF
TOTAL	580 LF

ITEM 659 - SEEDING AND MULCHING

MAINLINE		
STA. 137+99 NB TO STA. 139+49 NB	$\left(\frac{3'+11'}{2}\right)$ 150' × 1/9	= 117 SY
STA. 158+40 N TO STA. 160+65 N	$\left[\left(\frac{3'+10'}{2}\right)125' + (100' \times 3')\right] \times 1/9$	= 124 SY
STA. 165+30 ℄ TO STA. 168+60 NB	330' × 3' × 1/9	= 110 SY
STA. 185+07 RD TO STA. 186+34 RD	$\left(\frac{3'+4.5'}{2}\right)$ 125' × 1/9	= 52 SY
STA. 195+59.76 GA TO STA. 199+34.76 RA	$\left[\left(\frac{3'+11.3'}{2}\right)125' + (250' \times 3')\right] \times 1/9$	= 183 SY
STA. 199+32 NB TO STA. 204+32 NB	500' × 3' × 1/9	= 167 SY
STA. 209+65 NB TO STA. 211+65 NB	$\left[\left(\frac{11.3'+3'}{2}\right)125' + (75' \times 3')\right] \times 1/9$	= 124 SY
NB I-471 STA. 149+75 N TO STA. 151+00 N	125' $\left(\frac{11.3'+3'}{2}\right)$ 1/9	= 99 SY
RAMP GG		
STA. 31+26.5 GG TO STA. 32+89 GG	162.5' × 3' × 1/9	= 54 SY
STA 31+29 GG TO STA. 32+83 GG	154' × 3' × 1/9	= 51 SY
STA. 41+07 GG TO STA. 44+82 GG	$\left[\left(\frac{11.3'+3'}{2}\right)112.5' + (262.5' \times 3')\right]$ 1/9	= 177 SY
STA. 40+67.5 GG TO STA. 43+55 GG	$\left[\left(\frac{3'+7.5'}{2}\right)187.5' + (100' \times 3')\right]$ 1/9	= 143 SY
RAMP GD		
STA. 17+80 GBN TO STA. 168+54 GD	1087.5' × 3' × 1/9	= 363 SY
RAMP GA		
STA. 168+50 GA TO STA. 174+35 GA	587.5' × 3' × 1/9	= 196 SY
STA. 171+38 GA TO STA. 174+88 GA	350' × 3' × 1/9	= 117 SY
STA. 176+46 GA TO STA. 177+96 GA	150' $\left(\frac{3'+11.3'}{2}\right)$ 1/9	= 119 SY
MAINLINE		
STA. 173+60 SB TO STA. 175+10 SB	150' $\left(\frac{3'+16.3'}{2}\right)$ 1/9	= 161 SY

ITEM 659 - SEEDING AND MULCHING (CONTINUED)

RAMP RB		
STA. 180+85 RB TO STA. 188+47.5 RB	762.5' × 3' × 1/9	= 254 SY
STA. 192+12 RB TO STA. 193+62 RB	$\left[(75' \times 3') + \left(\frac{3'+11.3'}{2}\right)75'\right] \times 1/9$	= 85 SY
RAMP RC		
STA. 188+39.7 RC TO STA 31+74 NBR	232.3' × 3' × 1/9	= 77 SY
NB READING ROAD		
STA. 14+40 NBR ± TO STA. 15+64 NBR	137.5' × 3' × 1/9	= 46 SY
GORE @ SB READING ROAD	62.5' × 3' × 1/9	= 21 SY
RAMP RD		
STA. 174+35 RD TO STA. 175+60 RD	125' × 3' × 1/9	= 42 SY
STA. 179+48 RD TO STA. 180+73 RD	125' × 3' × 1/9	= 42 SY
STA. 180+09 RD TO STA. 182+34 RD	225' × 3' × 1/9	= 75 SY
RAMP RF		
STA. 187+64 RF TO STA. 187+89 RF	75' × 3' × 1/9	= 25 SY
RAMP RE		
STA. 188+37.5 RE TO STA 192+87.5 RF	450' × 3' × 1/9	= 150 SY
RAMP GF		
STA. 30+93 GF TO STA. 32+43 GF	150' $\left(\frac{11.3'+3'}{2}\right)$ 1/9	= 119 SY
STA. 30+90 GF TO STA 32+36 GF	146' × 3' × 1/9	= 49 SY
	TOTAL	3342 SY

ITEM 659 - WATER

APPLICATION RATE 120 GAL/1000 SF

3342 SY × 9 SF/SY × 120 GAL/1000 SF × 1 M GAL/1000 GAL = 3.61 M GAL

ITEM 659 - COMMERCIAL FERTILIZER

APPLICATION RATE 20#/1000 SF

3342 SY × 9 SF/SY × 20#/1000 SF × 1 TON/2000# = 0.30 TON

ITEM 254 - PAVEMENT PLANING, BITUMINOUS

LYTEL TUNNEL WORK	= 9868 SY

NOTE: TOTALS CARRIED TO GENERAL SUMMARY SHEETS UNLESS NOTED OTHERWISE.

PAVEMENT CALCULATIONS

(1P) STA. 133+29 SB ± TO STA. 137+63 SB ± (LEFT)

- 622 - CONC. BARRIER, TYPE D, AS PER PLAN B = 113 LF
- 622 - CONC. BARRIER, TYPE D 321'-2.5' = 318.5 LF
- 202 - CURB REMOVED = 321 LF
- 452 - 4" PLAIN CONC. PVMT. [((2'+3')/2) 80' + ((3'+4')/2) 176' + ((4'+5')/2) 68'] x 1/9 = 125 SY
- 202 - CONCRETE MEDIAN REMOVED [((2'+4')/2) 88' + (119.5'x4') + ((4'+7')/2) 50'] x 1/9 = 113 SY

(2P) STA. 133+56 SB ± TO STA. 134+95 SB (MEDIAN - RAMP E)

- 622 - CONC. BARRIER, TYPE A, APP 46.85'-(1 INLET @ 20') = 26.9 LF
- 202 - CONC. MEDIAN REMOVED [(8'x68')+((8'+3')/2)72'] x 1/9 = 104 SY
- 203 - EXCAVATION (NIEC) [(5'x68')+((5'+0')/2)72'] x 0.25' x 1/27 = 4.8 CY
- 446 - 1½" ASPH. CONC. TYPE I 520 SF x 0.1042' x 1/27 = 2 CY
- 301 - 3" BITUM. AGG. BASE 520 SF x 0.25' x 1/27 x 2 = 9.6 CY
- 304 - 6" AGG. BASE, APP 520 SF x 0.5' x 1/27 = 9.6 CY
- 408 - BITUM. PRIME COAT 520 SF x 1/9 x 0.25 GAL/SY = 14.4 GAL
- 518 - POROUS BACKFILL 2.33'x(5'+2.76')1/2 x 55' x 1/27 = 18 CY
- 452 - 4" PLAIN CONC. PVMT. (5'+2.07')1/2 x 57' x 1/9 = 24 SY
- 622 - CONC. BARRIER, TYPE D = 110 LF

(3P) STA. 135+65 NB ± TO STA. 139+58.35 NB (MEDIAN)

- 622 - CONC. BARRIER, TYPE B50 368.35'-(2@20')-(1@10')-(3@2.5') = 310.85 LF
- 202 - CONC. MEDIAN REMOVED [((9'+6')/2)85' + (6'x393.35')] x 1/9 = 333 SY
- 446 - 1¼" ASPH. CONC. TYPE I [((9'+6')/2)85' + (243'x6')] - [(73'x3.5') + [((3.5'+5.5')/2)50'x2] + (5.5'x10') + (80'x3.5')] = 1055 SF x 0.1042' x 1/27 = 4.1 CY
- 301 - 3" BITUM. AGG. BASE 1055 SF x 0.25' x 1/27 = 9.8 CY
- 304 - AGG. BASE, APP (VD) 1055 SF x ((0.33'+0.25')/2) x 1/27 = 11.3 CY
- 408 - BITUM. PRIME COAT 1055 SF x 1/9 x 0.25 GAL/SY = 29.3 GAL
- 622 - CONC. BARRIER, TYPE B50, APP B 25' = 25 LF

(4P) STA. 137+68 B ± TO STA. 139+63 B (LEFT - RAMP B)

- 202 - CURB REMOVED = 195 LF
- 203 - EXCAVATION (NIEC) 195' x 2.5' x 0.5' x 1/27 = 9 CY
- 622 - CONC. BARRIER, TYPE D 195' = 195 LF
- 659 - SEEDING & MULCHING 195'x3'x1/9 = 65 SY
- 659 - WATER 195'x3'x120 GAL/1000SF x 1/1000 = 0.07 MGAL
- 659 - COMMERCIAL FERTILIZER 195'x3'x20#/1000SF x 1/2000 = 0.006 TON

(5P) NOT USED

(6P) STA. 149+96.72 ℄ TO STA. 159+40.79 ℄ (MEDIAN)

- 622 - CONC. BARRIER, TYPE B50 894.07'-(4@20')-(7@2.5')-(1@14') = 782.57 LF
- 202 - CONC. MEDIAN REMOVED 6' x 944.07' x 1/9 = 629 SY
- 644 - 1¼" ASPH. CONC. TYPE I (6'x619.07')-[((5.5'+6.5')/2)72.78' + (5.5'x10') + ((5.5'+3.5')/2)40' + (3.5'x496.29')] = 1305.72 SF x 0.1042' x 1/27 = 5.0 CY
- 301 - 3" BITUM. AGG. BASE 1305.72 SF x 0.25' x 1/27 = 12.1 CY
- 304 - AGG. BASE, APP (VD) 1305.72 SF x ((0.33'+0.25')/2) 1/27 = 14.0 CY
- 408 - BITUM. PRIME COAT 1305.72 SF x 1/9 x 0.25 GAL/SY = 36.3 GAL
- 622 - CONC. BARRIER, TYPE B50, APP B 50' = 50 LF

(7P) STA. 150+17 B ± TO STA. 158+35 ℄ NB I-71 (RIGHT)

- 622 - CONC. BARRIER, TYPE D 345' = 345 LF
- 202 - CURB REMOVED 345' = 345 LF
- 202 - CONC. MEDIAN REMOVED [((10+5)/2)120' + (5'x498')] 1/9 = 377 SY
- 659 - SEEDING & MULCHING [112'((3'+1')/2) + 82'((0+5.5')/2) + (64 x 5.5')] 1/9 = 101.3 SY
- 659 - WATER 101.3 SY x 9 x 120 GAL/1000SF x 1/1000 = 0.11 MGAL
- 659 - COMMERCIAL FERTILIZER 101.3 SY x 9 x 20#/1000SF x 1/2000 = 0.009 TON
- 622 - CONC. BARRIER, TYPE B, AS PER PLAN 244.5'-(1@2.5')-(1@10') = 232 LF
- 202 - CURB REMOVED = 945 LF
- 622 - CONC. BARRIER, TYPE A, AS PER PLAN = 228 LF

(8P) STA. 150+01.75 ℄ TO STA. 158+67.5 ℄ ± SB I-71 (LEFT)

- 622 - CONC. BARRIER, TYPE D, AS PER PLAN B = 426.25 LF
- 622 - CONC. BARRIER, TYPE B, AS PER PLAN 439.5'-(5@2.5') = 427 LF
- 202 - CONC. MEDIAN REMOVED 5'x439.5'x1/9 = 244 SY
- 202 - CURB REMOVED 439.5'x2 = 879 LF
- 203 - EXCAVATION (NIEC) ((0+3')/2)106.5' x 1.2083' x 1/27 = 7.0 CY
- 446 - 1½" ASPH. CONC. TYPE I 156.75 SF x 0.1042' x 1/27 = 0.6 CY
- 301 - 6" BITUM. AGG. BASE 156.75 SF x 0.5' x 1/27 = 2.9 CY
- 408 - BITUM. PRIME COAT 156.75 SF x 1/9 x 0.25 GAL/SY = 4.4 GAL
- 304 - AGG. BASE, APP 156.75 SF x 0.5' x 1/27 = 2.9 CY

(9P) STA. 158+75 GD TO STA. 170+76 GD RAMP GD (RIGHT)

- 622 - CONC. BARRIER, TYPE D 693'-(3@2.5') = 685.5 LF
- 622 - CONC. BARRIER, TYPE D, AS PER PLAN 548' = 548 LF
- 202 - CONC. MEDIAN REMOVED [4'(258'+68') + (1.5'x508')] 1/9 = 230 SY
- 202 - CURB REMOVED 693' + 508' + 35' = 1236 LF
- 203 - EXCAVATION (NIEC) [(258'x1.5'x((0+0.5')/2)) + (182'x3'x((0.25+0)/2)) + (468'x1.5'x0.58')] x 1/27 = 21.2 CY
- 601 - CONC. SLOPE PROTECTION [(258'x1.5') + (68'x2')] 1/9 = 58 SY
- 304 - AGG. BASE, APP 468' x 1.5' x 0.58' x 1/27 = 15.1 CY
- 659 - SEEDING & MULCHING 367'x3'x1/9 = 122 SY
- 659 - WATER 367'x3'x120 GAL/1000SF x 1/1000 = 0.13 MGAL
- 659 - COMMERCIAL FERTILIZER 367'x3'x20#/1000 SF x 1/2000 = 0.011 TON
- 304 - AGG. BASE, APP (VD) [(25'x1.5')+(10'x0.75')]x0.25'x1/9 = 0.4 CY
- 609 - COMBINATION CURB & GUTTER, TYPE 2, APP = 35 LF

(10P) SEE SHEET 85

(11P) STA. 163+54 ℄ TO STA. 165+30 ℄ (RIGHT)

- 622 - CONC. BARRIER, TYPE D = 176 LF
- 202 - CURB REMOVED = 176 LF
- 659 - SEEDING & MULCHING 176'x3'x1/9 = 59 SY
- 659 - WATER 176'x3'x120 GAL/1000SF x 1/1000 = 0.06 MGAL
- 659 - COMMERCIAL FERTILIZER 176'x3'x20#/1000SF x 1/2000 = 0.005 TON

* EXCAVATION (NIEC) = EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION.

(12P) STA. 162+46.24 ℄ TO STA. 169+25 NB (MEDIAN)

- 202 - CONC. MEDIAN REMOVED [(6'x486.4') + ((6'+10')/2)192.36'] x 1/9 = 495 SY
- 622 - CONC. BARRIER, TYPE B50, APP 67.36'-(1@20') = 47.36 LF
- 622 - CONC. BARRIER, TYPE D50 (125'x2)-(3@20')-(1@2.5') = 187.5 LF
- 446 - 1¼" ASPH. CONC. TYPE I [(323.9'x6') - [(3.5x48.26') + 60'((6.5+3.5)/2) + (43'x6.5') + (3.5'x112.64')]] x 0.1042' x 1/27 = 2.3 CY
- 301 - 3" BITUM. AGG. BASE 584.95 SF x 0.25' x 1/27 = 10.8 CY
- 408 - BITUM. PRIME COAT 584.95 SF x 1/9 x 0.25 GAL/SY = 16.2 GAL
- 452 - 4" PLAIN CONC. PVMT. ((2.5'+5')/2)125' x 1/9 = 52 SY
- 622 - CONC. BARRIER, TYPE B50, APP B 25' = 25 LF
- 622 - CONC. BARRIER TYPE B50 486.4'-(3@2.5')-(1@10')-(2@20') = 428.9 LF

(13P) STA. 161+91 S ± TO STA. 171+75 SB ± SB I-71 (LEFT)

- 622 - CONC. BARRIER, TYPE D 816'-(1@20')-(6@2.5)-10' = 778.5 LF
- 622 - CONC. BARRIER, TYPE D, AS PER PLAN 168'-(1 INLET x 20') = 148 LF
- 202 - CURB REMOVED = 984 LF
- 202 - CONC. MEDIAN REMOVED 168'x((2'+3')/2)x1/9 = 46.7 SY
- 659 - SEEDING & MULCHING 816'x3'x1/9 = 272 SY
- 659 - WATER 816'x3'x120 GAL/1000SF x 1/1000 = 0.29 MGAL
- 659 - COMMERCIAL FERTILIZER 816'x3'x20#/1000SF x 1/2000 = 0.024 TON
- 630 - BARRIER WALL ASSEMBLY, TYPE TC-21.41, DESIGN 1 APP = 1 EA.

(14P) STA. 169+25 NB TO STA. 173+60 NB (MEDIAN-LEFT)

- 202 - CURB REMOVED = 470 LF
- 622 - CONC. BARRIER, TYPE D50 435'-(1@20') = 415 LF
- 601 - RIPRAP, AS PER PLAN [((5'+20')/2)365' + (6'x70')] x 1/9 = 554 SY
- 659 - SEEDING & MULCHING [((14'+19')/2)70' + (35'x3')] x 1/9 = 140 SY
- 659 - WATER 1260 SF x 120 GAL/1000 SF x 1/1000 = 0.151 MGAL
- 659 - COMMERCIAL FERTILIZER 1260 SF x 20#/1000SF x 1/2000 = 0.013 TON
- 304 - AGG. BASE, APP (VD) ((25'x1.5')+(10'x0.75'))x0.25'x1/27 = 0.4 CY
- 609 - COMB. CURB & GUTTER, TYPE 2, APP 35' = 35 LF

(15P) STA. 169+25 NB TO STA. 182+07.04 NB (MEDIAN-RIGHT)

- 202 - CURB REMOVED = 1282.04 LF
- 622 - CONC. BARRIER, TYPE D50 1282.04-(1@20')-(5@2.5') = 1249.54 LF
- 659 - SEEDING & MULCHING 844.04'x3'x1/9 = 281 SY
- 659 - WATER 844.04'x3'x120 GAL/1000SF x 1/1000 = 0.304 MGAL
- 659 - COMMERCIAL FERTILIZER 844.04'x3'x20#/1000SF x 1/2000 = 0.025 TON
- 622 - CONC. BARRIER, TYPE D 15' = 15 LF

(16P) STA. 170+76 GD TO STA 181+28 NB (NB I-71 & RAMP GD-RIGHT)

- 202 - CONC. MEDIAN REMOVED 1049.07'x1.5'x1/9 = 175 SY
- 202 - CURB REMOVED = 1049.07 LF
- 622 - CONC. BARRIER, TYPE D, AS PER PLAN 895.07'-(1@2.5') = 892.57 LF
- 622 - CONC. BARRIER, TYPE D 154'-(1@2.5') = 151.5 LF
- 203 - EXCAVATION (NIEC) 895.07'x1.5'x0.58'x1/27 = 28.8 CY
- 304 - AGG. BASE, APP 895.07'x1.5'x0.58'x1/27 = 28.8 CY
- 659 - SEEDING & MULCHING 154'x3'x1/9 = 51 SY
- 659 - WATER 154'x3'x120 GAL/1000SF x 1/1000 = 0.055 MGAL
- 659 - COMMERCIAL FERTILIZER 154'x3'x20#/1000SF x 1/2000 = 0.005 TON

(17P) SEE SHEET 85

(18P) STA. 171+75 SB TO STA. 187+87.75 SB (LEFT)

- 202 - CURB REMOVED = 1612.75 LF
- 202 - CONC. MEDIAN REMOVED [121'((3.5'+4.5')/2) + (9'x145')] x 1/9 = 199 SY
- 622 - CONC. BARRIER, TYPE D 1612.75-(15@2.5') = 1575.25 LF
- 601 - CONC. SLOPE PROTECTION 9'x145'x1/9 = 145 SY
- 659 - SEEDING & MULCHING [(874.75+192')5' + (210.6'x3')] 1/9 = 663 SY
- 659 - WATER 5965.55 SF x 120 GAL/1000 SF x 1/1000 = 0.72 MGAL
- 659 - COMMERCIAL FERTILIZER 5965.55 SF x 20#/1000SF x 1/2000 = 0.06 TON

(19P) STA. 174+88 GA TO STA. 190+13 GA ± (RAMP GA - RIGHT)

- 622 - CONC. BARRIER, TYPE D, AS PER PLAN B = 235 LF
- 622 - CONC. BARRIER, TYPE D 1290' = 1290 LF
- 202 - CURB REMOVED = 1325 LF
- 304 - AGG. BASE, APP (VD) [(25'x1.5')+(10'x0.75')]x0.25'x1/27 = 0.4 CY
- 609 - COMB. CURB & GUTTER, TYPE 2, APP 35' = 35 LF

(20P) STA. 174+35 GA TO STA. 176+46 GA (RAMP GA - LEFT)

- 202 - CURB REMOVED 211' + 70' = 281 LF
- 202 - CONC. MEDIAN REMOVED [(1.5'x128') + ((1.5'+2.5')/2)83'] 1/9 = 40 SY
- 203 - EXCAVATION (NIEC) 358 SF x 0.58' x 1/27 = 7.7 CY
- 304 - AGG. BASE, APP [(358 SF x 0.58') + [(25'x1.5') + (10'x0.75')] 0.25'] 1/27 = 8.5 CY
- 622 - CONC. BARRIER TYPE D, AS PER PLAN 211' - (1 INLETS x 20') = 191 LF
- 609 - COMB. CURB & GUTTER, TYPE 2, APP 35' = 35 LF

(21P) STA. 179+38 RB TO STA. 180+85 RB (RAMP RB - RIGHT)

- 202 - CURB REMOVED 147' + 35' = 182 LF
- 622 - CONC. BARRIER, TYPE D = 147 LF
- 659 - SEEDING & MULCHING 182'x3'x1/9 = 60.7 SY
- 659 - WATER 182'x3'x120 GAL/1000 SF x 1/1000 = 0.065 MGAL
- 659 - COMMERCIAL FERTILIZER 182'x3'x20#/1000 SF x 1/2000 = 0.005 TON
- 304 - AGG. BASE, APP (VD) ((25'x1.5')+(10'x0.75'))x0.25'x1/27 = 0.4 CY
- 609 - COMB. CURB & GUTTER, TYPE 2, APP 35' = 35 LF

(22P) STA. 182+25 NB TO STA. 186+69.04 NB (LEFT)

- 202 - CONC. MEDIAN REMOVED ((4'+10')/2)137.96' x 1/9 = 107 SY
- 622 - CONC. BARRIER, TYPE D 101.3' = 101.3 LF
- 622 - CONC. BARRIER, TYPE D, AS PER PLAN = 324.04 LF
- 452 - 4" PLAIN CONC. PVMT. ((0+5')/2) 120' x 1/9 = 33.3 SY

(23P) STA. 182+25 NB TO STA. 183+45 NB (LEFT)

- 622 - CONC. BARRIER, TYPE D 101.3' = 101.3 LF

(24P) STA. 182+06.63 RC TO STA. 187+95 RC (LEFT)
STA. 20+48 NBR TO STA. 26+08 NBR ± (RIGHT)

- 202 - CONC. MEDIAN REMOVED 343'((9'+4')/2) x 1/9 = 248 SY
- 202 - CURB REMOVED = 248.4 LF
- 203 - EXCAVATION (NIEC) 248.4'x3' x ((0+0.5')/2) x 1/27 = 6.9 CY
- 659 - SEEDING & MULCHING 248.4'x3'x1/9 = 83 SY
- 659 - WATER 248.4'x3'x120 GAL/1000SF x 1/1000 = 0.089 MGAL
- 659 - COMMERCIAL FERTILIZER 248.4'x3'x20#/1000 SF x 1/2000 = 0.007 TON
- 630 - BARRIER WALL ASSEMBLY, TYPE TC-21.41 DESIGN 2 APP = 1 EA.

NOTE: QUANTITIES CARRIED TO ESTIMATED QUANTITY SHEETS UNLESS OTHERWISE NOTED.
"APP" MEANS "AS PER PLAN"
"APP (VD)" MEANS "AS PER PLAN, VARIABLE DEPTH"

SECTION 1

ACAD FILENAME: ***-***.DWG

PAVEMENT CALCULATIONS

24P CONTINUED
622 - CONC. BARRIER, TYPE D
493.4' - (1 @ 4') - (1 @ 2.5') = 486.9 LF
622 - CONC. BARRIER, TYPE A, AS PER PLAN = 95 LF
452 - 4" PLAIN CONC. PVMT. $(\frac{4+0}{2})$ 343' x 1/9 = 76.2 SY

25P STA. 20+48 NBR ± TO STA. 27+09 NBR
202 - CURB REMOVED = 661 LF
202 - CONC. MEDIAN REMOVED 53' x 3.33' x 1/9 = 20 SY
601 - CONC. SLOPE PROTECTION 53' x 1.5' x 1/9 = 8.8 SY
622 - CONC. BARRIER, TYPE D 661' - (1 @ 20') = 641 LF
203 - EXCAVATION (NIEC) 413' x 1.5' x $(\frac{0+0.5'}{2})$ x 1/27 = 5.7 CY
659 - SEEDING & MULCHING [(413' x 1.5') + (195' x 3')] x 1/9 = 134 SY
659 - WATER 1204.5 SF x 120 GAL/1000SF x 1/1000 = 0.145 MGAL
659 - COMMERCIAL FERTILIZER
1204.5 SF x 20#/1000SF x 1/2000 = 0.012 TON

26P STA. 185+16 SB TO STA. 187+83 SB (RIGHT)
304 - AGG. BASE, APP (VD) [(25' x 1.5') + (10 x 0.75')] 0.25'/27 = 0.4 CY
609 - COMB. CURB & GUTTER, TYPE 2, APP 35' = 35 LF
622 - CONC. BARRIER, TYPE D, AS PER PLAN B 267' = 267 LF
202 - CURB REMOVED 35' = 35 LF

27P STA. 187+35 RA TO STA. 190+07 RA (RAMP RA - LEFT)
622 - CONC. BARRIER, TYPE D, AS PER PLAN B = 272 LF

28P STA. 189+19 RF TO STA. 193+35 RF (RAMP RF - RIGHT)
622 - CONC. BARRIER, TYPE D, AS PER PLAN B = 416 LF
304 - AGG. BASE, APP (VD) [(25' x 1.5') + (10 x 0.75')] 0.25'/27 = 0.4 CY
609 - COMB. CURB & GUTTER, TYPE 2, APP 35' = 35 LF
202 - CURB REMOVED 35' = 35 LF

29P STA. 191+96.25 RB TO STA. 193+18 RB (RAMP RB - RIGHT)
622 - CONC. BARRIER, TYPE D, APP B = 121.75 LF

30P SEE SHEET 85

31P STA. 195+43.25 SB TO STA. 196+60.11 SB
202 - CONC. MEDIAN REMOVED [(13' x 25') + 93' $(\frac{13+4'}{2})$] x 1/9 = 124 SY
622 - CONC. BARRIER, TYPE D 194.3' = 194.3 LF
452 - 4" PLAIN CONC. PVMT. $(\frac{3+8'}{2})$ 97.15' x 1/9 = 59.4 SY

32P STA. 195+58.5 SB TO STA. 211+19.5 SB ± (RIGHT)
202 - CURB REMOVED = 1274 LF
622 - CONC. BARRIER, TYPE D 1073.5 - (5 @ 2.5) = 1061 LF
659 - SEEDING & MULCHING 1274' x 2.5' x 1/9 = 354 SY
659 - WATER 1274' x 2.5' x 120 GAL/1000SF x 1/1000 = 0.38 MGAL
659 - COMMERCIAL FERTILIZER
1274' x 2.5' x 20#/1000SF x 1/2000 = 0.032 TON
622 - CONC. BARRIER, TYPE D50 487.5' - (1 @ 2.5') = 485 LF

33P STA. 198+31.17 NB TO STA. 210+86 NB (NB I-71 LEFT & MEDIAN)
202 - CURB REMOVED = 968.8 LF
202 - CONC. MEDIAN REMOVED $(\frac{10'+6.4'}{2})$ 286' x 1/9 = 260.6 SY
622 - CONC. BARRIER, TYPE D 768.83' - (4 @ 2.5') = 758.83 LF
622 - CONC. BARRIER, TYPE D50 466 - (3 @ 2.5') = 458.5 LF
452 - 4" PLAIN CONC. PVMT $(\frac{6'+2.4'}{2})$ 286' x 1/9 = 133.5 SY

33P CONTINUED
659 - SEEDING & MULCHING 968.83' x 3' x 1/9 = 323 SY
659 - WATER 968.83' x 3' x 120 GAL/1000SF x 1/1000 = 0.349 MGAL
659 - COMMERCIAL FERTILIZER
968.83' x 3' x 20#/1000SF x 1/2000 = 0.029 TON
518 - POROUS BACKFILL $(\frac{6'+2.4'}{2})$ 286' x 4.5' x 1/27 = 200.2 CY

34P STA. 198+31.17 NB TO STA. 199+32 NB (RIGHT)
609 - COMB. CURB & GUTTER, TYPE 2, APP 35' = 35 LF
304 - AGG. BASE, APP (VD) [(25' x 1.5') + (10' x 0.75')] 0.25'/27 = 0.4 CY
202 - CURB REMOVED 35' = 35 LF
622 - CONC. BARRIER, TYPE D, AS PER PLAN B
100.83' = 100.83 LF

35P STA. 205+59.14 SB TO STA. 215+00 ℄
202 - CONC. MEDIAN REMOVED 985.25' x 1.5' x 1/9 = 164.2 SY
202 - CURB REMOVED 985.25' = 985.25 LF
622 - CONC. BARRIER, TYPE D, AS PER PLAN 985.25' = 985.25 LF
203 - EXCAVATION (NIEC) 985.25' 1.5' x 0.60' x 1/27 = 32.8 CY
304 - AGG. BASE, APP (VD) 985.25' x 1.5' x 0.60' x 1/27 = 32.8 CY
408 - BITUM PRIME COAT 985.25' x 1.5' x 1/9 x 0.25 GAL/SY = 41.1 GAL

36P SEE SHEET 85

37P STA. 137+44.55 SB TO STA. 137+69.55 SB
HAM-71-0154 L/R
203 - EXCAVATION (NIEC) [$(\frac{9+10'}{2})$ 25' + (6' x 25')] x 1.125' x 1/27 = 16.1 CY
202 - APPR. SLAB REMOVED [(54' x 25') + $\frac{1.5'}{2}$ (25')] x 1/9 = 152.1 SY
611 - REINF. CONC. APPR. SLAB (T=17"), APP
152.1 SY + [$(\frac{9+10'}{2})$ 25' + (6' x 25')] 1/9 = 195.2 SY

38P STA. 139+33.35 NB TO STA. 139+58.35 NB
HAM-71-0154 L/R
203 - EXCAVATION (NIEC) [(8' x 25') + $(\frac{9+10'}{2})$ 25'] x 1.125' x 1/27 = 18.2 CY
202 - APPR. SLAB REMOVED [(1.5' x 25') + (34.5' x 25')] x 1/9 = 100 SY
611 - REINF. CONC. APPR. SLAB (T=17"), APP
100 SY + [(8' x 25') + $(\frac{9+10'}{2})$ 25'] x 1/9 = 148.6 SY

39P STA. 139+07.41 B TO STA. 139+32.41 B
HAM-71-0154 L/R
203 - EXCAVATION (NIEC) [(3' x 25') + (2.5' x 25')] x 1.125' x 1/27 = 5.7 CY
611 - REINF. CONC. APPR. SLAB (T=17"), APP
57.5 SY + [(3' x 25') + (2.5' x 25')] 1/9 = 72.8 SY
202 - APPR. SLAB REMOVED [2 $(\frac{21' x 15'}{2})$ + (13.5' x 15')] x 1/9 = 57.5 SY

40P STA. 149+96.72 ℄ TO STA. 150+21.72 ℄ (SB I-71)
HAM-71-0154 L/R
203 - EXCAVATION (NIEC) [$(\frac{9+10'}{2})$ 25' + (8' x 25')] x 1.125' x 1/27 = 18.2 CY
611 - REINF. CONC. APPR. SLAB (T=17"), APP
100 SY + [$(\frac{9+10'}{2})$ 25' + (8' x 25')] x 1/9 = 148.6 SY
202 - APPR. SLAB REMOVED 36' x 25' x 1/9 = 100 SY

* EXCAVATION (NIEC) = EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION.
MSMCO = MICRO-SILICA MODIFIED CONCRETE OVERLAY (1 3/4" THICK)

41P STA. 149+96.72 ℄ TO STA. 150+21.72 ℄ (NB I-71)
HAM-71-0154 L/R
203 - EXCAVATION (NIEC) [$(\frac{9+10'}{2})$ 25' + (8' x 25')] x 1.125' x 1/27 = 18.2 CY
611 - REINF. CONC. APPR. SLAB (T=17"), APP
100 SY + [$(\frac{9+10'}{2})$ 25' + (8' x 25')] x 1/9 = 148.6 SY
202 - APPR. SLAB REMOVED 36' x 25' x 1/9 = 100 SY

42P NOT USED

43P STA. 159+15.79 ℄ TO STA. 159+40.79 ℄ (SB I-71)
HAM-71-0192 L/R
203 - EXCAVATION (NIEC) [(10' x 25') + (8' x 25')] x 1.125' x 1/27 = 14.8 CY
611 - REINF. CONC. APPR. SLAB (T=17"), APP
104 SY + [(10' x 25') + (8' x 25')] x 1/9 = 154 SY
202 - APPR. SLAB REMOVED [(50' x 13') + $(\frac{22' x 13'}{2})$ 2] x 1/9 = 104 SY

44P STA. 159+15.79 ℄ TO STA. 159+40.79 ℄ (NB I-71)
HAM-71-0192 L/R
203 - EXCAVATION (NIEC)
[$(\frac{22' x 12'}{2})$ 2 + (6' x 12') + (8' x 25')] x 1.125' x 1/27 = 22.3 CY
611 - REINF. CONC. APPR. SLAB (T=17"), APP
102.5 SY + [$(\frac{22' x 12'}{2})$ 2 + (6' x 12') + (8' x 25')] x 1/9 = 162.1 SY
202 - APPR. SLAB REMOVED [$(\frac{22' x 13'}{2})$ 2 + (44' x 13')] 1/9 = 102.5 SY

45P STA. 160+43.15 N TO STA. 160+68.15 N (NB I-471)
HAM-71-0192 L/R
203 - EXCAVATION (NIEC) 8.25' x 25' x 1.125' x 1/27 = 8.6 CY
202 - APPR. SLAB REMOVED [$(\frac{15' x 22.5'}{2})$ + (15' x 2') + $(\frac{15' x 20'}{2})$] 1/9 = 38.8 SY
611 - REINF. CONC. APPR. SLAB (T=17"), APP
38.8 SY + (8.25' x 25' x 1/9) = 61.7 SY

46P STA. 162+46.24 ℄ TO STA. 162+71.24 ℄ (SB I-71)
HAM-71-0192 L/R
203 - EXCAVATION (NIEC) 8' x 25' x 1.125' x 1/27 = 8.3 CY
202 - APPR. SLAB REMOVED [(14.5' x 62.5') + $(\frac{14.5' x 2.15'}{2})$ 2] 1/9 = 135.3 SY
611 - REINF. CONC. APPR. SLAB (T=17"), APP
135.3 SY + (8' x 25' x 1/9) = 157.5 SY

47P STA. 162+46.24 ℄ TO STA. 162+71.24 ℄ (NB I-71)
HAM-71-0192 L/R
203 - EXCAVATION (NIEC) [(8' x 25') + (7' x 25')] x 1.125' x 1/27 = 15.6 CY
202 - APPR. SLAB REMOVED [$(\frac{18' x 14.5'}{2})$ + $(\frac{21' x 14.5'}{2})$ + (64' x 14.5')] 1/9 = 142.6 SY
611 - REINF. CONC. APPR. SLAB (T=17"), APP
142.6 SY + [(8' x 25') + (7' x 25')] 1/9 = 184.3 SY

48P STA. 162+71.71 S TO STA. 162+96.71 S
HAM-71-0192 L/R
203 - EXCAVATION (NIEC) 25' x 5' x 1.125' x 1/27 = 5.2 CY
202 - APPR. SLAB REMOVED 19' x 25' x 1/9 = 52.8 SY
611 - REINF. CONC. APPR. SLAB (VARIABLE THICKNESS)
52.8 SY + (25' x 5' x 1/9) = 66.7 SY

49P SEE SHEET 85

50P STA. 175+54.65 RD TO STA. 175+79.65 RD (RAMP RD)
HAM-71-0228
202 - APPR. SLAB REMOVED, APP 3' x 32' x 1/9 = 10.7 SY
611 - REINF. CONC. APPR. SLAB (T=15"), APP
3' x 32' x 1/9 = 10.7 SY
SPECIAL - MSMCO [$(\frac{6'+0'}{2})$ 24' + $(\frac{7.5'+0}{2})$ 24' + (25.5' x 24')] 1/9 = 86 SY

52P AND 51P SEE SHEET 85

54P STA. 20+31.50 NBR TO STA. 20+56.50 NBR
HAM-42-0235 R
202 - APPR. SLAB REMOVED 25' x 25' x 1/9 = 69.4 SY
611 - REINF. CONC. APPR. SLAB (T=17"), APP 27' x 25' x 1/9 = 75 SY

55P STA. 186+19.04 NB TO STA. 186+44.04 NB
HAM-71-0243 R
203 - EXCAVATION (NIEC) [$(\frac{9+10'}{2})$ 2 x 25' x 1.125' x 1/27] = 19.8 CY
611 - REINF. CONC. APPR. SLAB (T=17")
[(72' x 25') + 2 $(\frac{9+10'}{2})$ 25'] x 1/9 = 226.4 SY
202 - APPR. SLAB REMOVED 72' x 25' x 1/9 = 200 SY

56P STA. 198+27.25 NB TO STA. 198+52.25 NB
HAM-71-0243 R
203 - EXCAVATION (NIEC) 9' x 25' x 1.125' x 1/27 x 2 = 18.8 CY
611 - REINF. CONC. APPR. SLAB (T=17"), APP
[(60' x 25') + (9' x 25') 2] x 1/9 = 216.7 SY
202 - APPR. SLAB REMOVED 60' x 25' x 1/9 = 166.7 SY

57P NOT USED

58P STA. 188+26.19 RB TO STA. 188+51.19 RB (RAMP RB)
HAM-42-0257 R
203 - EXCAVATION (NIEC) [$(\frac{6+7'}{2})$ 25' + (3' x 25')] x 1.125' x 1/27 = 6.5 CY
611 - REINF. CONC. APPR. SLAB (T=15")
[$(\frac{6+7'}{2})$ 25' + (3' x 25')] x 1/9 = 17.4 SY
519 - MSMCO [$(\frac{19' x 16'}{2})$ + (6.5' x 16') + $(\frac{21' x 15'}{2})$ + $(\frac{6+7'}{2})$ 25' + (3' x 25')] x 1/9 = 71.7 SY

59P STA. 191+96.25 RB TO STA. 192+21.25 RB (RAMP RB)
HAM-42-0257 R
203 - EXCAVATION (NIEC) [(7' x 25') + (3' x 25')] x 1.125' x 1/27 = 10.4 CY
611 - REINF. CONC. APPR. SLAB (T=15") [(7' x 25') + (3' x 25')] x 1/9 = 27.8 SY
519 - MSMCO [(7' x 25') + (3' x 25') + (16' x 25')] x 1/9 = 72.2 SY

60P STA. 187+62.75 SB TO STA. 187+87.75 SB
HAM-71-0243 L
203 - EXCAVATION (NIEC) [$(\frac{8.5'+9.5'}{2})$ 25' + (5' x 25')] x 1.125' x 1/27 = 14.6 CY
611 - REINF. CONC. APPR. SLAB (T=17"), APP
[$(\frac{8.5'+9.5'}{2})$ 25' + (5' x 25') + (36' x 25')] 1/9 = 138.9 SY
202 - APPR. SLAB REMOVED 36' x 25' x 1/9 = 100 SY

61P STA. 195+42.75 SB TO STA. 195+67.75 SB
HAM-71-0243 L
203 - EXCAVATION (NIEC) [(5' x 19.5') + $(\frac{5'+5.2'}{2})$ 5.5'] x 1.125' x 1/27 = 5.7 CY
202 - APPR. SLAB REMOVED 45' x 25' x 1/9 = 125 SY
611 - REINF. CONC. APPR. SLAB (T=17"), APP
[(5' x 19.5') + $(\frac{5'+5.2'}{2})$ 5.5' + (45' x 25')] 1/9 = 139 SY

62P NOT USED

NOTE: QUANTITIES CARRIED TO ESTIMATED QUANTITY SHEETS UNLESS OTHERWISE NOTED.
"APP (VD)" MEANS "AS PER PLAN (VARIABLE DEPTH)"

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PAVEMENT CALCULATIONS

(63P) STA. 189+90.25 GA TO STA. 190+15.25 GA (RAMP GA)
HAM-42-0264 R

203 - EXCAVATION (NIEC) $\left[\left(\frac{5'+6'}{2}\right)25'+(3'\times25')\right]\times1.125'\times1/27$ = 8.9 CY
611 - REINF. CONC. APPR. SLAB (T=17") APP $\left[\left(\frac{5'+6'}{2}\right)25'+(3'\times25') + (46'\times25')\right]1/9$ = 151.4 SY
202 - APPR. SLAB REMOVED $46'\times25'\times1/9$ = 127.8 SY

(64P) STA. 195+46.63 GA TO STA. 195+71.63 GA (RAMP GA)
HAM-42-0264 R

202 - APPR. SLAB REMOVED $\left(\frac{29'+30'}{2}\right)25'\times1/9$ = 81.9 SY
203 - EXCAVATION (NIEC) $7'\times25'\times1.125'\times1/27$ = 7.3 CY
611 - REINF. CONC. APPR. SLAB (T=17") APP $\left(\frac{36'+37'}{2}\right)25'\times1/9$ = 101.4 SY

(65P) NOT USED

(66P) STA. 158+35 ℄ ± TO STA. 160+54 ℄ ± (NB I-71 RIGHT)

202 - CURB REMOVED, AS PER PLAN B = 219 LF
301 - BITUM. AGG. BASE, VAR. DEPTH $45'\times1'\times1'\times1/27$ = 1.7 CY
301 - 3" BITUM. AGG. BASE $45'\times1'\times0.25'\times1/27$ = 0.4 CY
446 - 1¼" ASPH. CONC. TYPE I $45'\times1'\times0.1042'\times1/27$ = 0.2 CY

(67P) STA. 168+60 NB TO STA 170+55 NB (NB I-71 RIGHT)

202 - CURB REMOVED, AS PER PLAN B = 196 LF
301 - BITUM. AGG. BASE, VAR. DEPTH $196'\times1'\times1'\times1/27$ = 7.3 CY
301 - 3" BITUM. AGG. BASE $196'\times1'\times0.25'\times1/27$ = 1.8 CY
446 - 1¼" ASPH. CONC. TYPE I $196'\times1'\times0.1042'\times1/27$ = 0.8 CY

(68P) STA. 180+54.7 SB TO STA. 181+99 SB (SB I-71 RIGHT)

202 - CURB REMOVED, AS PER PLAN B = 144.3 LF
301 - BITUM. AGG. BASE, VAR. DEPTH $144.3'\times1'\times1'\times1/27$ = 5.3 CY
301 - 3" BITUM. AGG. BASE $144.3'\times1'\times0.25'\times1/27$ = 1.3 CY
446 - 1¼" ASPH. CONC. TYPE I $144.3'\times1'\times0.1042'\times1/27$ = 0.3 CY

(69P) STA. 185+00 NB TO STA. 186+37 NB ± (NB I-71 RIGHT)

202 - CURB REMOVED = 137 LF

(70P) STA. 186+96.78 RF TO STA 187+99 RF (RAMP RF)
RAMP RF TO SB I-71

202 - CURB REMOVED = 103 LF
301 - BITUM. AGG. BASE, VAR. DEPTH $103'\times1'\times1'\times1/27$ = 3.8 CY
446 - 1½" ASPH. CONC. TYPE II $103'\times1'\times0.125'\times1/27$ = 0.5 CY
446 - 1¼" ASPH. CONC. TYPE I $103'\times1'\times0.1042'\times1/27$ = 0.4 CY

(71P) STA. 188+14.22 RC TO STA. 188+60 RC ± (RAMP RC)
RAMP RC AND RAMP RE

202 - CONC. MEDIAN REMOVED $\left(\frac{4'+10'}{2}\right)46'\times1/9$ = 35.8 SY
609 - CURB, TYPE 6 $25'+22'$ = 45 LF
203 - EMBANKMENT $\left(\frac{10'+7'}{2}\right)22'\times0.25'\times1/27$ = 1.7 CY
659 - SEEDING & MULCHING $\left(\frac{10'+7'}{2}\right)22'\times1/9$ = 20.8 SY
659 - WATER $\left(\frac{10'+7'}{2}\right)22'\times120\text{GAL}/1000\text{SF}\times1/1000$ = 0.022 MGAL
659 - COMMERCIAL FERTILIZER $\left(\frac{10'+7'}{2}\right)22'\times20\#/1000\text{SF}\times1/2000$ = 0.002 TON

* EXCAVATION (NIEC) = EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION.
SDC = SUPERPLASTICIZED DENSE CONCRETE OVERLAY (1¾" THICK)

(72P) NOT USED

(73P) STA. 215+00 ℄ TO STA. 215+50 ℄ (MEDIAN)

202 - CONC. MEDIAN REMOVED $50'\times6'\times1/9$ = 33.3 SY
203 - EXCAVATION (NIEC) $\left(\frac{1.75'+0}{2}\right)50'\times0.33'\times1/27$ = 1.1 CY
301 - 6" BITUM. AGG. BASE $\left(\frac{1.75'+0}{2}\right)50'\times0.5'\times1/27$ = 1.6 CY
612 - CONC. MEDIAN $\left(\frac{2.5'+6'}{2}\right)50'\times1/9$ = 23.6 SY

(74P) STA. 215+00 ℄ TO STA. 215+35.4 ℄ (SB I-71 LEFT)

202 - CONC. MEDIAN REMOVED $35.4'\times1.5'\times1/9$ = 5.9 SY
202 - CURB REMOVED = 25 LF
609 - CURB, TYPE 6 = 25 LF
617 - 4" COMPACTED AGG. $35.4'\times0.33'\times1.5'\times1/27$ = 0.7 CY

(75P) STA. 28+51.76 GBN TO STA. 28+76.76 GBN (GILBERT AVE)
HAM-22-0145

202 - APPR. SLAB REMOVED $\left[(132'\times25')-\left(\frac{10\times6}{2}\right)\right]1/9$ = 363.3 SY
611 - REINF. CONC. APPR. SLAB (VARIABLE THICKNESS) = 363.3 SY

(76P) STA. 31+61.86 GBN TO STA. 31+86.86 GBN (GILBERT AVE)
HAM-22-0145

202 - APPR. SLAB REMOVED $\left[(152'\times25')+\left(\frac{12'\times6'}{2}\right)\right]1/9$ = 426.2 SY
611 - REINF. CONC. APPR. SLAB (VARIABLE THICKNESS) = 426.2 SY

(77P) STA. 13+20.65 EP TO STA. 13+45.65 EP (ELSINORE PLACE)
HAM-71-0221

202 - APPR. SLAB REMOVED $\left[(25'\times52')+18'\left(\frac{27'+15'}{2}\right)\right]1/9$ = 186.4 SY
611 - REINF. CONC. APPR. SLAB (VAR. THICKNESS) = 186.4 SY
202 - CONC. MEDIAN REMOVED $4'\times22'\times1/9$ = 9.8 SY

(78P) STA. 15+62.77 EP TO STA. 15+87.77 EP (ELSINORE PLACE)
HAM-71-0221

202 - APPR. SLAB REMOVED $\left(\frac{72'+95'}{2}\right)25'\times1/9$ = 231.9 SY
611 - REINF. CONC. APPR. SLAB (VAR. THICKNESS) = 231.9 SY
202 - CONC. MEDIAN REMOVED $4'\times8'\times1/9$ = 3.6 SY

(79P) STA. 13+37.79 ℄ TO STA. 13+62.79 (McGREGOR AVE)
HAM-71-0289

202 - APPR. SLAB REMOVED $36'\times25'\times1/9$ = 100 SY
611 - REINF. CONC. APPR. SLAB (VAR. THICKNESS) = 100 SY

(80P) NOT USED

(81P) STA. 181+18 RD RAMP RD

SPECIAL - PRESSURE RELIEF JOINT, TYPE C = 32 LF

(82P) STA. 21+63.5 NBR NORTHBOUND READING ROAD

SPECIAL - PRESSURE RELIEF JOINT, TYPE C = 25 LF

(83P) STA. 189+04 RA RAMP RA

SPECIAL - PRESSURE RELIEF JOINT, TYPE C = 16 LF

(84P) STA. 189+10 GA RAMP GA

SPECIAL - PRESSURE RELIEF JOINT, TYPE C = 16 LF

(85P) STA. 187+49 RB RAMP RB

SPECIAL - PRESSURE RELIEF JOINT, TYPE C = 17 LF

(10P) STA. 151+00 N TO STA. 153+49.5 N NB I-471 (LEFT)

622 - CONC. BARRIER, TYPE D = 249.5 LF
203 - EXCAVATION (NIEC) $249.5'\left[(2.5'\times0.75')+\left(2.5'\left(\frac{0.75'}{2}\right)\right)\right]\times1/27$ = 26 CY
202 - CURB REMOVED = 284.5 LF
659 - SEEDING & MULCHING $284.5'\times3'\times1/9$ = 94.8 SY
304 - AGG. BASE, APP (VD) $((25'\times1.5')+(10'\times0.75'))0.25'\times1/27$ = 0.4 CY
659 - WATER $94.8\text{SY}\times9\times120\text{GAL}/1000\text{SF}\times1/1000$ = 0.10 MGAL
659 - COMMERCIAL FERTILIZER $94.8\text{SY}\times9\times20\#/1000\text{SF}\times1/2000$ = 0.009 TON
609 - COMB. CURB & GUTTER, TYPE 2, APP = 35 LF

(17P) STA. 185+86 RA TO STA. 187+62.5 RA RAMP RA/GA

622 - CONC. BARRIER, TYPE D, AS PER PLAN = 80 LF
622 - CONC. BARRIER, TYPE A, AS PER PLAN = 96.5 LF
202 - CURB REMOVED = 80 LF
202 - CONC. MEDIAN REMOVED $\left[\left(\frac{2.5'+3.5'}{2}\right)80'+\left(\frac{6'+4'}{2}\right)59'+(37.5'\times4')\right]\times1/9$ = 76.1 SY

(30P) STA. 20+40.1 NBR TO STA. 25+13 NBR ± NB READING RD (Rt)

202 - CURB REMOVED = 249 LF
622 - CONC. BARRIER, TYPE D, APP B = 217 LF
622 - CONC. BARRIER, TYPE D, 249'-(1@4') = 245 LF

(36P) STA. 210+86 NB TO STA. 215+00 ℄ (I-71 MEDIAN)

202 - CONC. MEDIAN REMOVED $\left[\left(\frac{6.4'+6'}{2}\right)29.76'+(6'\times384.24')\right]\times1/9$ = 276.7 SY
203 - EXCAVATION (NIEC) $591.63\text{SF}\times0.33'\times1/27$ = 7.2 CY
301 - BITUM. AGG. BASE, VAR. DEPTH $\left[93.22'\left(\frac{6'+6.88'}{2}\right)+(274.98'\times6')\right]-\left[115.2\left(\frac{5.5'+6.88'}{2}\right)+(10'\times5.5')+\left(\frac{5.5'+3.5'}{2}\right)40'+(3.5'\times203')\right]\times0.58'\times1/27$ = 12.7 CY
301 - 3" BITUM. AGG. BASE $591.63\text{SF}\times0.25'\times1/27$ = 5.5 CY
446 - 1¼" ASPH. CONC. TYPE I $591.63\text{SF}\times0.1042'\times1/27$ = 2.3 CY
622 - CONC. BARRIER, TYPE B50, APP A 161'-(2@2.5') = 156 LF
622 - CONC. BARRIER, TYPE B50 243'-(1@20') = 223 LF

(51P) STA. 179+44.07 RD TO STA. 179+69.07 RD RAMP RD
HAM-71-0228

202 - APPR. SLAB REMOVED APP $3'\times58'\times1/9$ = 19.3 SY
611 - RENIF. CONC. APPR. SLAB (T=15") APP = 19.3 SY
SPECIAL - MICRO SILICA $\left[\left(\frac{22'\times13.5'}{2}\right)+(13.5'\times35.5')+\left(\frac{32'\times13.5'}{2}\right)\right]1/9$ = 93.8 SY

(49P) STA. 158+34.75 S TO STA. 158+59.75 S (SB I-471)
HAM-71-0192W

203 - EXCAV. NIEC $[(8'\times25')+(3'\times25')]\times1.125'\times1/27$ = 11.5 CY
202 - APPR. SLAB REMOVED $(33'\times25')\times1/9$ = 91.7 SY
611 - REINF. CONC. APPR. SLAB (VAR. THICKNESS) $91.7\text{SY}+\left[[(8'\times25')+(3'\times25')]1/9\right]$ = 122.2 SY

(52P) STA. 175+68.01 RD TO STA. 175+84.54 RD RAMP RD

202 - CONC. MEDIAN REMOVED $\left(\frac{11'+18'}{2}\right)19'\times1/9$ = 30.6 SY
622 - CONC. BARRIER, TYPE D, APP C = 38.5 LF
452 - 4" PLAIN CONC. PVMT. $\left(\frac{2'+12.5'}{2}\right)19'\times1/9$ = 15.3 SY
203 - EXCAVATION (NIEC) $\left(\frac{1'+11.5'}{2}\right)19'\times0.2'\times1/27$ = 0.9 CY
518 - POROUS BACK FILL $\left(\frac{2'+12.5'}{2}\right)\times3'\times19'\times1/27$ = 15.3 CY

(53P) STA. 15+63.95 NBR TO STA. 15+88.95 NBR (NB READING RD)
HAM-42-0235R

202 - APPR. SLAB REMOVED, APP $3'\times38'\times1/9$ = 12.7 SY
611 - REINF. CONC. APPR. SLAB (T=15"), APP = 12.7 SY
SPECIAL - MICRO SILICA $\left[\left(\frac{21.5'\times16'}{2}\right)+(21.5'\times19.5')+\left(\frac{21.5'\times15.5'}{2}\right)\right]1/9$ = 84.2 SY

NOTE: QUANTITIES CARRIED TO ESTIMATED QUANTITY SHEETS UNLESS OTHERWISE NOTED.

PAVEMENT CALCULATIONS

PAVEMENT AREAS

PAVEMENT FEATHERING (MAINLINE)

RESUME PROJECT STA 433+87.5 ℄ TO STA. 436+82.72 ℄

MAINLINE (NB & SB)	36' x 212.5' x 2 x 1/9	= 1700 SY
SHLDRS. (NB & SB)	10' x 212.5' x 4 x 1/9	= 944 SY
SHLDR WIDENING	1.5' x 212.5' x 2 x 1/9	= 71 SY

END PROJECT STA. 544+60.98 ℄ TO STA. 546+73.48 ℄

MAINLINE (NB & SB)	36' x 212.5' x 2 x 1/9	= 1700 SY
SHLDRS. (NB & SB)	10' x 212.5' x 4 x 1/9	= 944 SY
SHLDR. WIDENING	1.5' x 212.5' x 2 x 1/9	= 71 SY

NORTH & SOUTH BOUND MAINLINE

STA. 436+82.72 ℄ TO STA. 459+90 ℄
36' x 2307.28' x 2 x 1/9 = 18,458 SY

STA. 459+90 ℄ TO STA. 475+00 ℄
[(200.36' x 36') + ((36'+48')/2) 100' + (48' x 280.36')
+ (387.27' x 36') 2 + 651' ((36'+52')/2)] x 1/9 = 7495 SY

STA. 475+00 ℄ TO STA. 489+43 ℄
[(36' x 1443' x 2) + (16' x 121.6') + ((16'+14')/2) 100' +
((16'+14')/2) 100'] x 1/9 = 12,094 SY

STA. 489+43 ℄ TO STA. 516+12.97 ℄
[((61'+48')/2) 520' + (48' x 2149.97') + (36' x 559.7') + (46' x 68')
+ ((73'+48')/2) 330' + (48' x 930') + ((48'+61')/2) 520'
+ (36' x 262.97') + 2 ((14'+16')/2) 100' + (16' x 56.1')] x 1/9 = 29,014 SY

STA. 516+12.97 ℄ TO STA. 544+60.98 ℄
[(276.03' x 36') + ((210'+140')/2)((48'+51')/2) + ((2047.5'+2019')/2) 36'
((2011'+1982')/2) 36'] x 1/9 = 17,223 SY

TOTAL 84,284 SY

NORTH & SOUTH BOUND SHOULDERS

STA. 436+82.72 ℄ TO STA. 459+90 ℄
10' SHLDR. 10' x 2307.28' x 4 x 1/9 = 10,255 SY
W. SHLDR. 2' x 2307.28' x 1/9 = 513 SY

STA. 459+90 ℄ TO STA. 475+00 ℄
10' SHLDR. [10'(200.36' + 630' + 638' + 412' + 392' + 375'
+ 331') + ((24'+13')/2) 20' + ((10'+8')/2) 100' + (8' x 325')
+ ((10'+8')/2) 80' + (8' x 582')] x 1/9 = 4337 SY

STA. 475+00 ℄ TO STA. 489+43 ℄
10' SHLDR. [10'(1127' + 1443' + 1443' + 1443') +
316' ((20'+11')/2)] x 1/9 = 6606 SY
SHLDR. [(3' x 121.6') + ((3'+8')/2) 200'] x 1/9 = 163 SY
W. SHLDR. [(3' x 121.6') + ((3'+0')/2) 120' + (1443' x 2' x 2)] x 1/9 = 702 SY

STA. 489+43 ℄ TO STA. 516+12.97 ℄
10' SHLDR. [(10' x 2669.97' x 2) + 10'(2149.97' + 930' + 559.7')
+ 8'(360' + 80') + ((8'+10')/2) 80' + ((6'+10')/2) 175.67'
+ ((4.15'+6')/2) 104.33' + ((8'+10')/2) 80' + (8' x 440')
((8'+3')/2) 200' + (3' x 56.08') + ((11'+20')/2) 250'
+ ((2'+3')/2) 100' + (3' x 56.08')] x 1/9 = 11,752 SY

PAVEMENT AREAS

WIDENED SHOULDER [(2' x 2669.97' x 2) + ((1.85'+0')/2) 104.33' +
((0'+3')/2) 119.92' + (3' x 56.08')] x 1/9 = 1236 SY

STA. 516+12.97 ℄ TO STA. 544+60.98 ℄
10' SHLDR. [((10'+8')/2) 100' + (8' x 43') + (10' x 2047.5')
+ 10'(207' + 241.6' + 308' + 2019' + 2011'
+ 1982')] x 1/9 = 9934 SY
WIDENED SHOULDER 2247.11' x 2' x 2 x 1/9 = 999 SY

STA. 459+90 ℄ TO STA. 475+00 ℄
W. SHLDR. 1022.04' x 2' x 2 x 1/9 = 454 SY

TOTALS

SHOULDER	43,047 SY
WIDEN SHLDR.	3904 SY

RAMPS

RAMP A - FROM NB RED BANK EXPWY TO SB I-71

STA. 0+00A TO STA. 17+73A
MAINLINE - [16'(769.87' + 583.66') + ((16'+15')/2)((32'+45')/2)
+ (10' x 61.15')] x 1/9 = 2541 SY
SHOULDER - [((5'+3')/2) 426.5' + ((10'+3')/2) 199.92' + (3' x 343.37')
(3' x 40.87') + 3'(564.7' + 583.7') + ((3'+5')/2) 33'
+ ((2.5'+3')/2) 45'] x 1/9 = 873 SY
WIDENED SHOULDER - [((0'+3')/2) 85.6' + 3'(40.87' + 583.66')
((2'+3')/2) 30' + (3' x 25' x 2)] x 1/9 = 247 SY
PAVEMENT TRANS. - [(25' x 3' x 2) + (25' x 6' x 2) + (25' x 31.25') 2] x 1/9 = 224 SY

RAMP B - FROM NB I-71 TO SB RED BANK EXPWY

STA. 4+79.5B TO STA. 16+74.12B
MAINLINE - [((17'+16')/2) 54.7' + (16' x 939.92') + ((16'+14')/2) 100'
+ ((16'+14')/2) 100'] x 1/9 = 2105 SY
SHOULDER - [3'(994.62' + 939.92') + ((2'+3')/2) 100'
+ ((3'+8')/2) 200'] x 1/9 = 795 SY
WIDENED SHOULDER - [((0.6'+3')/2) 54.7' + (3' x 939.92') +
((3'+0')/2) 118' + (3' x 25' x 2)] x 1/9 = 361 SY

RAMP C - FROM SB I-71 TO SB RED BANK EXPWY

STA. 3+30C TO STA. 28+99.17C
MAINLINE - 16'(1202.11' + 690.61') x 1/9 = 3365 SY
SHOULDER - [3'(1176' + 1202' + 472.4' + 504.2') +
((4'+10')/2) 218.17' + ((3'+5')/2) 218.17'] x 1/9 = 1385 SY
WIDENED SHOULDER - 3'(1202' + 472.4' + 25' + 25') x 1/9 = 575 SY
PAVEMENT TRANS. - [(25' x 3' x 2) + (25' x 6' x 2) + (25' x 31.25') 2] x 1/9 = 224 SY

PAVEMENT AREAS

RAMP D - FROM NB RED BANK EXPWY TO NB I-71

STA. 0+00D TO STA. 13+90D
MAINLINE - [((8'+46')/2) 467.5' + (63' x 26') + (16' x 788.5')] x 1/9 = 2986 SY
SHOULDER - [((8'+3')/2) 426.5' + ((10'+3')/2) 200' +
3'(588.5' + 888.5')] x 1/9 = 900 SY
WIDENED SHOULDER - [((0'+3')/2) 255.8' + (3' x 888.5')] x 1/9 = 339 SY
PAVEMENT TRANS. 75' x 25' x 1/9 = 208 SY

RAMP E - FROM STEWART ROAD TO SB I-71

STA. 1+32.87E TO STA. 9+50E
MAINLINE - [((19'+15')/2) 99.83' + ((52'+45')/2) 20' + ((24'+16')/2) 85'
+ (16' x 556.2')] x 1/9 = 1474 SY
SHOULDER - 3'(875' + 596.2') x 1/9 = 490 SY
WIDENED SHOULDER - 3' x 875' x 1/9 = 292 SY
PAVEMENT TRANS. - 75' x 25' x 1/9 = 208 SY

RAMP F - FROM NB I-71 TO STEWART ROAD

STA. 6+68.64F TO STA 21+90.76F
MAINLINE - [((17.5'+16')/2) 75.37' + (16' x 990.73') +
((42'+16')/2) 115.14' + ((19'+14')/2) 340.88' + ((4'+10')/2) 14'
+ ((19'+16.7')/2) 80.86'] x 1/9 = 3069 SY
SHOULDER - [3'(1435' + 1209.2') + ((5'+3')/2) 68'] x 1/9 = 912 SY
WIDENED SHOULDER - [((3'+0.5')/2) 68' + (3' x 1435')] x 1/9 = 492 SY
PAVEMENT TRANS. - [((16.7'+15')/2) 160.8' + (15' x 15') + (7.5' x 7.5')] x 1/9 = 314 SY

TOTALS

MAINLINE	15540 SY
SHOULDER	5355 SY
WIDENED SHLDR.	2306 SY
PVMT. TRANS.	1178 SY

SIDE ROADS

STEWART ROAD - STA. 45+65 TO STA. 54+80
FEATHERING - [(50' x 75') + ((58.2'+70')/2) 75'] x 1/9 = 951 SY
MAINLINE - [((50'+53')/2) 249.25' + ((67'+59.4')/2) 344.75'
+ ((59.4'+60.6')/2) 112' + ((79.6'+64')/2) 65.25'] x 1/9 = 5114 SY
SHOULDER - 3' x 57.87' x 1/9 = 19 SY
WIDENED SHLDR. - 3' x 57.87' x 1/9 = 19 SY

RED BANK EXPRESSWAY - STA. 74+25 TO STA. 81+71.82
SHOULDER - [((2'+3.95')/2) 746.82' x 2 x 1/9 = 494 SY

RED BANK EXPRESSWAY - STA. 81+71.82 TO STA. 86+03.32
FEATHERING - [((36.57'+37.46')/2) 212.5' + ((37.07'+40.69')/2) 212.5'] x 1/9 = 1792 SY
MAINLINE - [(24' x 219') + ((29.23'+34')/2) 187.5'] x 1/9 = 1243 SY
SHOULDER - 8'(431.5' + 400') + 400'((5'+3.95')/2) 2 + (5' x 31.5')] x 1/9 = 1154 SY
WIDENED SHLDR. - [((10'+1.12')/2) 334.88' + ((0.62'+1.25')/2) 400'
+ (31.5' x 1.25')] x 1/9 = 253 SY

PAVEMENT AREAS

SHOULDER RECONSTRUCTION

STA. 435+07.72 TO STA. 436+00 RT.	10' x 92.28' x 1/9	= 103 SY
STA. 440+60 TO STA. 446+25 RT.	10' x 565' x 1/9	= 628 SY
STA. 449+00 TO STA. 461+90.36 RT	10' x 1290.36' x 1/9	= 1434 SY
STA. 473+25 TO STA. 474+50 LT	10' x 125' x 1/9	= 139 SY
STA. 508+25 TO STA. 509+25 LT	[(10' x 5') + ((10'+8')/2) 80' + (8' x 15')] x 1/9	= 99 SY
STA. 511+50 TO STA. 515+00 RT	10' x 350' x 1/9	= 389 SY
	TOTAL	2792 SY

FULL DEPTH PAVEMENT REPLACEMENT

STA. 466+24.77 ℄ TO STA 467+87.27 ℄ (RT & LT)
MAINLINE - [((52.5'+49')/2) 137.5' + ((51'+55')/2) 137.5'] x 1/9 = 1585 SY
SHOULDER - [(137' x 8' x 2) + (93' x 11.5' x 2) + 74.5'((11.5'+10')/2)] x 1/9 = 570 SY
APPR. SLAB - [(25' x 55') + (25' x 53')] x 1/9 = 300 SY
WIDENED APPR. SLAB - [(8' x 25' x 2) + (10' x 25' x 2)] x 1/9 = 100 SY

STA. 469+50.23 ℄ TO STA. 471+12.73 ℄ (RT & LT)
MAINLINE - [((52'+50')/2) 137.5' + (16' x 98') + ((3'+7')/2) 46'
(36' x 137.5') + ((14.5'+16')/2)((83'+74')/2) + ((55'+65')/2)((14'+15')/2)] x 1/9 = 1759 SY
SHOULDER - [((8'+6')/2) 60' + (6' x 77.5') + ((12'+22')/2) 137.5'
((2'+2.5')/2) 54' + (83'+88') 11.5' + (49.5'+54.5')((11.5'+10')/2)
+ (3' x 42.5') + 99'((6'+8')/2)] x 1/9 = 805 SY
WIDENED APPR. SLAB - [(25' x 8' x 2) + (25' x 10' x 2)] x 1/9 = 100 SY
APPR. SLAB - [((71'+74')/2) 25' + ((69'+71')/2) 25'] x 1/9 = 396 SY

STA. 518+36.55 ℄ TO STA. 520+17.08 ℄ (RT & LT)
MAINLINE - [((50'+55')/2) 137.5' + (36' x 137.5')] x 1/9 = 1352 SY
SHOULDER - [(8' x 137.5') + (10' x 137.5') + (80'+90') 11.5'
+ 50'((11.5'+10')/2)] x 1/9 = 552 SY
APPR. SLAB - [(80' x 25') + (50' x 25')] x 1/9 = 361 SY
WIDENED APPR. SLAB - [(25' x 8') + (25' x 10') 3] x 1/9 = 106 SY

STA. 522+80.47 ℄ TO STA. 524+49.96 ℄ (RT & LT)
MAINLINE - [(36' x 137.5' x 2) + ((18'+17')/2) 66'] x 1/9 = 1228 SY
SHOULDER - [(10' x 137.5') + (50'+55')((10'+11.5')/2) + (10' x 134')
+ (3' x 7') + (28' x 6') + 45'((6'+8')/2)] x 1/9 = 483 SY
APPR. SLAB [(23' x 25') + (58' x 25') + (45' x 25')] x 1/9 = 350 SY
WIDENED APPR. SLAB [(25' x 8') + (25' x 10' x 3) + ((8'+12')/2) 25'] x 1/9 = 133 SY

TOTALS

MAINLINE	5924 SY
SHOULDER	2410 SY
APPROACH SLAB	1407 SY
WIDENED APPR. SLAB	439 SY

PAVEMENT CALCULATIONS

ITEM 202 - CONCRETE MEDIAN REMOVED

STA. 433+87.50 TO STA. 467+62.27
3292.05' x 15' x 1/9 = 5487 SY
STA. 469+62.73 TO STA. 520+08
5045.27' x 15' x 1/9 = 8409 SY
STA. 523+03 TO STA. 548+38
2532' x 15' x 1/9 = 4220 SY
STA. 81+71.82 TO STA. 84+42 (RED BANK EXPWY)
270.18' x $\left(\frac{4.74'+10'}{2}\right)$ x 1/9 = 266 SY
STA. 74+25 TO STA. 81+71.82 (RED BANK EXPWY)
746.82' $\left(\frac{2.4'+4.74'}{2}\right)$ x 1/9 = 296 SY
TOTAL 18,678 SY

ITEM 202 - WEARING COURSE REMOVED

RED BANK (MEDIAN) $\left(\frac{2'+3.95'}{2}\right)$ 746.82' x 2 x 1/9 = 494 SY

ITEM 202 - CURB REMOVED

STA. 433+87.50 TO STA. 467+62.27 3292.05' x 2 = 6584 LF
STA. 469+62.73 TO STA. 520+08 5045.27' x 2 = 10091 LF
STA. 523+03 TO STA. 548+38 2532' x 2 = 5064 LF
STA. 84+42 TO STA. 85+71.82 (RBANK)
129.82' x 2 = 260 LF
TOTAL 21999 LF

ITEM 203 - LINEAR GRADING, METHOD A

STA. 435+94 TO STA. 466+24.77 3030.77' ÷ 100 = 30.3 STA.
STA. 471+12.73 TO STA. 518+54.58 4741.85' ÷ 100 = 47.4 STA.
STA. 524+42.97 TO STA. 544+60.98 2018.01' ÷ 100 = 20.2 STA.
TOTAL 97.9 STA.

ITEM 203 - LINEAR GRADING, METHOD B

NORTHBOUND
STA. 435+07 TO STA. 465+70.72 3036.72' ÷ 100 = 30.6 STA.
STA. 0+00B TO STA. 0+34 B 34' ÷ 100 = 0.3 STA.
STA. 511+50 TO STA 516+12.97 462.97 ÷ 100 = 4.6 STA.
SOUTHBOUND
STA. 471+45 TO STA. 474+50 305' ÷ 100 = 3.1 STA.
STA. 508+25 TO STA. 509+25 100' ÷ 100 = 1.0 STA.
TOTAL 40.9 STA.

ITEM 203 - LINEAR GRADING, METHOD C

RED BANK EXPRESSWAY RAMPS
RAMP A STA. 6+43.44 TO STA. 8+01.13A 157.73' ÷ 100 = 1.6 STA.
STA. 11+27.76A TO STA. 18+52A 724.24' ÷ 100 = 7.2 STA.
RAMP B STA. 4+75B TO STA. 15+92.12B 1117.12' ÷ 100 = 11.2 STA.
RAMP C STA. 2+25.67C TO STA. 16+38.36C 1412.69' ÷ 100 = 14.1 STA.
STA. 21+77.31C TO STA. 26+81C 503.69' ÷ 100 = 5.0 STA.
RAMP D STA. 1+70.6D TO STA. 16+31.6D 1461' ÷ 100 = 14.6 STA.
STEWART ROAD RAMPS
RAMP E STA. 0+00E TO STA. 11+26E 1126' ÷ 100 = 11.3 STA.
RAMP F STA. 6+46.26F TO STA. 21+78F 1531.74' ÷ 100 = 15.3 STA.
TOTAL 80.3 STA.

ITEM 202 - PAVEMENT REMOVED

FULL DEPTH PAVEMENT REPLACEMENT = 5924 SY

ITEM 203 - EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION

MAINLINE (MEDIAN - NORMAL SECTION)
(2288.78' + 238' + 2249.97') x 10.88 SF x 1/27 = 1925 CY
(MEDIAN - SUPERELEVATED SECTION)
(874.77' + 137.5' + 137.5' + 2112.27' + 223.58' + 137.5' + 137.5' + 2386.02') x 12.73 SF x 1/27 = 2898 CY
TOTAL 4823 CY

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR

JOINT REPAIR FOR MAINLINE & RAMPS, AS PER LETTER 6-18-91
470 SY

ITEM 255 - FULL DEPTH RIGID PAVEMENT REMOVAL AND RIGID REPLACEMENT CLASS C

JOINT REPAIR FOR MAINLINE & RAMPS, AS PER LETTER 6-18-91
5850 SY

ITEM 255 - FULL DEPTH PAVEMENT SAWING

JOINT REPAIR FOR MAINLINE & RAMPS, AS PER LETTER 6-18-91 21,800 LF
STA. 546+73.48 TO STA. 548+46± 176 LF
TOTAL 21,976 LF

VOID

ITEM 254 - PAVEMENT PLANING, BITUMINOUS

FEATHERING @ END OF PROJECT [(36+2')2+(10'x4')] x 25' x 1/9 = 322 SY

ITEM 301 - BITUMINOUS AGGREGATE BASE

WIDENED SHLDR (ML) 3904 SY x 9 x 0.25' x 1/27 x 2 = 651 CY
MAINLINE (ML) 84,284 SY x 9 x 0.25' x 1/27 = 7024 CY
SHOULDER (ML) 43,047 SY x 9 x 0.25' x 1/27 = 3587 CY
FEATHERING (ML) [[(36+2')2+(10x4')]100' x 0.167' x 1/27] 2 = 143 CY
PVMT. TRANS. 208 SY x 2 x 9 x 0.1875' x 1/27 = 26 CY
MAINLINE (RBANK) 1243 SY x 9 x 0.25' x 1/27 = 104 CY
SHOULDER (RBANK) (494+253+1154) SY x 9 x 0.25' x 1/27 = 158 CY
WIDENED SHLDR (RBANK) 253 SY x 9 x 0.25' x 1/27 = 21 CY
WIDENED SHLDR. (STEWART) 19 SY x 9 x 0.25' x 1/27 = 2 CY
SHLDR. RECONSTRUCTION 2792 SY x 9 x 0.25' x 1/27 = 233 CY
TOTAL 11,949 CY

ITEM 301 - 6" BITUMINOUS AGGREGATE BASE

FULL DEPTH PVMT. REPLAC. 2506 SY x 9 x 0.5' x 1/27 = 418 CY
SHLDR. RECONSTRUCTION 2792 SY x 9 x 0.5' x 1/27 = 465 CY
TOTAL 883 CY

ITEM 301 - 9" BITUMINOUS AGGREGATE BASE

FULL DEPTH PVMT. REPLAC. 5924 SY x 9 x 0.75' x 1/27 = 1481 CY

ITEM 304 - AGGREGATE BASE, AS PER PLAN

WIDENED SHLDR (MAINLINE) 3904 SY x 9 x 0.5' x 1/27 = 651 CY
FULL DEPTH PAVEMENT REPLACEMENT
SHOULDER 2410 SY x 9 x 0.9' x 1/27 = 723 CY
WIDENED SHLDR. (RAMPS) 2324 SY x 9 x 0.25' x 1/27 = 194 CY
WIDENED SHLDR. (RBANK) 253 SY x 9 x $\left(\frac{0'+0.75'}{2}\right)$ x 1/27 = 32 CY
WIDENED SHLDR. (STEWART) 19 SY x 9 x 0.25' x 1/27 = 2 CY
SHLDR. RECONSTRUCTION 2792 SY x 9 x 0.5' x 1/27 = 465 CY
TOTAL 2067 CY

ITEM 304 - 9" AGGREGATE BASE, AS PER PLAN

FULL DEPTH PAVEMENT REPLACEMENT
MAINLINE 5924 SY x 9 x 0.75' x 1/27 = 1481 CY

ITEM 310 - SUBBASE

WIDENED SHLDR (ML) 3904 SY x 9 x 0.5' x 1/27 = 651 CY
WIDENED SHLDR. (RAMP) (2306-1060) SY x 9 x $\left(\frac{0.25'+0.5'}{2}\right)$ x 1/27 = 156 CY
1060 SY x 9 x 0.5' x 1/27 = 177 CY
TOTAL 984 CY

ITEM 407 - TACK COAT (APPLICATION RATE 0.075 GAL/SY)

MAINLINE 84,284 SY x 0.075 GAL/SY = 6321 GAL
SHOULDER 43,047 SY x 0.075 GAL/SY = 3229 GAL
WIDENED SHLDR. 3904 SY x 0.075 GAL/SY = 293 GAL
FEATHERING (ML) 2715 SY x 2 x 0.075 GAL/SY = 407 GAL
MAINLINE (RAMP) 15,540 SY x 0.075 GAL/SY = 1166 GAL
SHOULDER (RAMP) 5355 SY x 0.075 GAL/SY = 402 GAL
WIDENED SHLDR (RAMP) 2306 SY x 0.075 GAL/SY = 173 GAL
PVMT. TRANS. (RAMP) 1178 SY x 0.075 GAL/SY = 88 GAL
STEWART RD 6103 SY x 0.075 GAL/SY = 458 GAL
RED BANK EXPRESSWAY 4936 SY x 0.075 GAL/SY = 370 GAL
SHLDR. RECONSTRUCTION 4588 SY x 0.075 GAL/SY = 344 GAL
FULL DEPTH PVMT REPLACEMENT
MAINLINE 5924 SY x 0.075 GAL/SY = 444 GAL
SHOULDER 2410 SY x 0.075 GAL/SY = 181 GAL
TOTAL 13,876 GAL

ITEM 446 - 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE I

MAINLINE 84,284 SY x 9 x 0.1042' x 1/27 = 2928 CY
SHOULDER 43,047 SY x 9 x 0.1042' x 1/27 = 1495 CY
WIDENED SHLDR. 3904 SY x 9 x 0.1042' x 1/27 = 136 CY
FEATHERING (ML) 2715 SY x 2 x 9 x 0.1042' x 1/27 = 189 CY
MAINLINE (RAMP) 15,540 SY x 9 x 0.1042' x 1/27 = 540 CY
SHOULDER (RAMP) 5355 SY x 9 x 0.1042' x 1/27 = 186 CY
WIDENED SHLDR (RAMP) 2306 SY x 9 x 0.1042' x 1/27 = 80 CY
PVMT. TRANS. (RAMP) 1178 SY x 9 x 0.1042' x 1/27 = 41 CY
6.25' x 25' x $\left(\frac{0.083'+0.0417'}{2}\right)$ x 1/27 x 4 = 2 CY
STEWART ROAD 6103 SY x 9 x 0.1042' x 1/27 = 212 CY
RED BANK EXPRESSWAY 4442 SY x 9 x 0.1042' x 1/27 = 154 CY
SHOULDER RECONSTRUCTION 2792 SY x 9 x 0.1042' x 1/27 = 97 CY
TOTAL 6060 CY

ITEM 408 - BITUMINOUS PRIME COAT

FULL DEPTH PVMT REPLAC. (5924+2410) SY x 0.25 GAL/SY = 2084 GAL
SHOULDER RECONSTRUCTION 4588 SY x 0.25 GAL/SY = 1147 GAL
TOTAL 3231 GAL

ITEM 446 - 1½" ASPHALT CONCRETE SURFACE COURSE, TYPE I

FULL DEPTH PAVEMENT REPLACEMENT
MAINLINE 5924 SY x 9 x 0.125' x 1/27 = 247 CY
SHOULDER 2410 SY x 9 x 0.125' x 1/27 = 100 CY
RED BANK EXPRESSWAY (SHLDR) 494 SY x 9 x 0.125' x 1/27 = 21 CY
TOTAL 368 CY

ITEM 446 - 1½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE II

RAMPS (ML) 15,540 SY x 9 x 0.125' x 1/27 = 648 CY
(SHLDR) 5355 SY x 9 x 0.125' x 1/27 = 223 CY
(WIDEN SHLDR) 2306 SY x 9 x 0.125' x 1/27 = 96 CY
(PVMT TRANS) 25' x 25' x 4 x $\left(\frac{0.125'+0.083'}{2}\right)$ x 1/27 = 15 CY
STEWART ROAD (ML) 5114 SY x 9 x 0.125' x 1/27 = 213 CY
(SHLDR) 19 SY x 9 x 0.125' x 1/27 = 1 CY
(WIDEN SHLDR) 19 SY x 9 x 0.125' x 1/27 = 1 CY
(FEATHERING) [30' + $\left(\frac{38.2'+70'}{2}\right)$] 43.75' x $\left(\frac{0.125'+0.083'}{2}\right)$ x 1/27 = 19 CY
TOTAL 1216 CY

ITEM 446 - 2½" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE II

FULL DEPTH PAVEMENT REPLACEMENT
MAINLINE 5924 SY x 9 x 0.2083' x 1/27 = 411 CY
SHOULDER 2410 SY x 9 x 0.2083' x 1/27 = 167 CY
TOTAL 578 CY

ITEM 516 - ¾" PREFORMED EXPANSION JOINT FILLER

MAINLINE (MEDIAN)
STA. 433+87.50 TO STA. 467+62.27 3292.05'
3292.05' x 2 x 0.5' = 3292 SF
STA. 469+62.73 TO STA. 520+08
5045.27' x 2 x 0.5' = 5045 SF
STA. 523+03 TO STA. 548+38
2532' x 2 x 0.5' = 2532 SF
BRIDGE HAM-71-0986 π x 4' x 3 x 0.5' = 19 SF
TOTAL 10,888 SF

ITEM 601 - PAVED GUTTER, TYPE 1-2, AS PER PLAN

MAINLINE (MEDIAN)
STA. 433+87.50 TO STA. 467+62.27 = 3292 LF
STA. 469+62.73 TO STA. 520+08 = 5045 LF
STA. 523+03 TO STA. 548+38 = 2532 LF
TOTAL 10,869 LF

ITEM 617 - COMPACTED AGGREGATE, TYPE A, AS PER PLAN

FEATHERING (ML) 212.5' x 4 x $\left(\frac{0.3542'+0'}{2}\right)$ 4' x 1/27 = 22 CY
MAINLINE ((2307.28' - 59.25') + 2618.22' + 2886' + (5339.94' - 50' - 34') + 3534.02') x $\left(\frac{0.3542'+0'}{2}\right)$ x 4' x 1/27 = 434 CY
RAMPS [2184.12'(B) + 3871.86'(C) + 2383(A) + 2315'(D) + 1488.33'(E) + 2818.8'(F)] x $\left(\frac{0.2292'+0'}{2}\right)$ x 4' x 1/27 = 256 CY
RED BANK EXPWY 831.49' x $\left(\frac{0.2292'+0'}{2}\right)$ x 4' x 1/27 = 14 CY
TOTAL 726 CY

NOTE: TOTALS CARRIED TO GENERAL SUMMARY SHEETS UNLESS NOTED OTHERWISE.

PAVEMENT CALCULATIONS

ITEM 659 - SEEDING AND MULCHING

FEATHERING (ML) 212.5' x 3' x 4 x 1/9 = 283 SY
MAINLINE [(3079.55' + 4862.27') 2 + 590' + 740' + 860.98' + 660.98'] x 3' x 1/9 = 6245 SY
RED BANK EXPRESSWAY
RAMP A (655.24' + 792.24' + 347.07' + 740') 3' x 1/9 = 845 SY
RAMP B (1294.12' + 982') 3' x 1/9 = 759 SY
RAMP C [(1296' x 2) + 513' + 731.17'] x 3' x 1/9 = 1279 SY
RAMP D (925' + 1390') 3' x 1/9 = 772 SY
MAINLINE (60' + 431.49' + 400') x 3' x 1/9 = 297 SY
STEWART ROAD
RAMP E (671.2' + 950') 3' x 1/9 = 540 SY
RAMP F & F1 (1604.76' + 310' + 439.74') x 3' x 1/9 = 785 SY
TOTAL 11,805 SY

ITEM 659 - WATER (APPLICATION RATE 120 GAL/1000 SF)

11,805 SY x 9 SF/SY x 120 GAL/1000 SF x 1 MGAL/1000 GAL = 12.75 MG

ITEM 659 - COMMERCIAL FERTILIZER

(APPLICATION RATE 20#/1000 SF)
11,805 SY x 9 SF/SY x 20#/1000 SF x 1 TON/2000# = 1.06 TON

ITEM 203 - SUBGRADE COMPACTION

FULL DEPTH PAVEMENT REPLACEMENT
MAINLINE = 5924 SY
SHOULDER = 2410 SY
TOTAL 8334 SY

(1P) STA. 435+93 TO STA. 467+72 (MEDIAN)

622 - CONCRETE BARRIER, TYPE D50
3179' x 2 (EA. SIDE) - (13 INLETS x 20') = 6098 LF
203 - EXCAVATION NOT INCLUDING EMBK. CONST.
((1' + 0.75')/2) 2.5' x 6098' x 1/27 = 494 CY

(2P) STA. 455+97 TO STA. 456+56.25 (LEFT)

622 - CONCRETE BARRIER, TYPE D, AS PER PLAN A = 59.25 LF
203 - EXCAVATION NOT INCLUDING EMBK. CONST.
4' x 0.5' x 59.25' x 1/27 = 4 CY
203 - EMBANKMENT 4' x ((0.25' + 0)/2) x 59.25' x 1/27 = 1 CY
659 - SEEDING & MULCHING 4' x 64.25' x 1/9 = 29 SY
659 - WATER 4' x 64.25' x 120 GAL/1000 SF x 1/1000 = 0.03 MGAL
659 - COMMERCIAL FERTILIZER
4' x 64.25' x 20#/1000 SF x 1/2000 = 0.003 TON

(3P) STA. 469+63 TO STA. 519+87 (MEDIAN)

622 - CONCRETE BARRIER, TYPE D 50
5024' x 2 (EA. SIDE) - (11 INLETS x 20') = 9828 LF
203 - EXCAVATION NOT INCLUDING EMBK. CONST.
((1' + 0.75')/2) 2.5' x 9824' x 1/27 = 796 CY

(4P) STA. 499+75 TO STA. 500+25 (RIGHT)

622 - CONCRETE BARRIER, TYPE D, AS PER PLAN A = 50 LF
203 - EXCAVATION NOT INCLUDING EMBK. CONST.
4' x 0.5' x 50' x 1/27 = 4 CY
203 - EMBANKMENT 4' x ((0.25' + 0)/2) x 50' x 1/27 = 1 CY
659 - SEEDING & MULCHING 4' x 55' x 1/9 = 24 SY
659 - WATER 4' x 55' x 120 GAL/1000 SF x 1/1000 = 0.03 MGAL
659 - COMMERCIAL FERTILIZER
4' x 55' x 20#/1000 SF x 1/2000 = 0.002 TON

(5P) STA. 505+03.5 TO STA. 505+37.5 (LEFT)

622 - CONCRETE BARRIER, TYPE D, AS PER PLAN A = 34 LF
203 - EXCAVATION (NIEC) 4' x 0.5' x 34' x 1/27 = 3 CY
203 - EMBANKMENT 4' x ((0.25' + 0)/2) x 34' x 1/27 = 1 CY
659 - SEEDING & MULCHING 4' x 39' x 1/9 = 17 SY
659 - WATER 4' x 39' x 120 GAL/1000 SF x 1/1000 = 0.02 MGAL
659 - COMMERCIAL FERTILIZER
4' x 39' x 20#/1000 SF x 1/2000 = 0.002 TON

(6P) STA. 523+04 TO STA. 548+35.98 (MEDIAN)

622 - CONCRETE BARRIER, TYPE D50
2531.98' x 2 (EA. SIDE) - (7 INLETS @ 20' EA) = 4923.96 LF
203 - EXCAVATION (NIEC) ((1' + 0.75')/2) x 4923.96' x 2.5' x 1/27 = 399 CY

(7P) STA. 9+25F TO STA. 17+00F (RAMP F - LEFT)

622 - CONCRETE BARRIER, TYPE D50, AS PER PLAN = 775 LF
203 - EXCAVATION (NIEC) ((1' + 0.75')/2) x 2.5' x 775' x 1/27 = 100 CY
203 - EMBANKMENT 4' x ((0.25' + 0)/2) x 780' x 1/27 = 14 CY
659 - SEEDING & MULCHING 4' x 780' x 1/9 = 347 SY

(7P) CONTINUED

659 - WATER 4' x 780' x 120 GAL/1000 SF x 1/1000 = 0.37 MGAL
659 - COMMERCIAL FERTILIZER
4' x 780' x 20#/1000 SF x 1/2000 = 0.03 TON
601 - ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER
6' x 4' (AVG) x 0.5' x 1/27 x 3 (LOC) = 1.3 CY

(8P) STA. 529+00 TO STA. 538+00 (RIGHT)

622 - CONCRETE BARRIER, TYPE D50, AS PER PLAN = 900 LF
203 - EXCAVATION (NIEC) ((1' + 0.75')/2) x 4' x 900' x 1/27 = 117 CY
203 - EMBANKMENT 4' x ((0.25' + 0)/2) x 905' x 1/27 = 18 CY
659 - SEEDING & MULCHING 4' x 905' x 1/9 = 402 SY
659 - WATER 4' x 905' x 120 GAL/1000 SF x 1/1000 = 0.43 MGAL
659 - COMMERCIAL FERTILIZER
4' x 905' x 20#/1000 SF x 1/2000 = 0.04 TON
601 - ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER
6' x 4' (AVG) x 0.5' x 1/27 x 2 (LOC) = 0.9 CY

(9P) STA. 530+50 TO STA. 536+00 (LEFT)

622 - CONCRETE BARRIER, TYPE D50, AS PER PLAN = 550 LF
203 - EXCAVATION (NIEC) ((1' + 0.75')/2) x 4' x 550' x 1/27 = 71 CY
203 - EMBANKMENT 4' x ((0.25' + 0)/2) x 550' x 1/27 = 10 CY
659 - SEEDING & MULCHING 4' x 555' x 1/9 = 247 SY
659 - WATER 4' x 555' x 120 GAL/1000 SF x 1/1000 = 0.27 MGAL
659 - COMMERCIAL FERTILIZER
4' x 555' x 20#/1000 SF x 1/2000 = 0.02 TON
601 - ROCK CHANNEL PROTECTION, TYPE C WITHOUT FILTER
6' x 4' (AVG) x 0.5' x 1/27 x 1 (LOC) = 0.5 CY

(10P) STA. 74+25 TO STA. 0+75A (MEDIAN) RED BANK EXPWY.

622 - CONC. BARRIER, TYPE B, APP A
746.82' - (3 @ 2.5') - (2 @ 20') = 699.32 LF
622 - CONCRETE BARRIER, TYPE C 328.18' - (1 @ 20') = 308.18 LF
203 - EXCAVATION (NIEC) ((0.25' + 0)/2) x 3' x 334.88' x 1/27 = 14 CY
622 - CONC. BARRIER, TYPE B, APP C 178.3' - (1 @ 2.5') = 175.8 LF

(11P) STA. 4+32.20B RAMP B TO NB I-71

202 - CONCRETE MEDIAN REMOVED ((4' + 10')/2) 46' x 1/9 = 36 SY
202 - CURB REMOVED, AS PER PLAN A = 123 LF
203 - EMBANKMENT 123' x 2' x ((0.375' + 0)/2) x 1/27 = 2 CY
659 - SEEDING & MULCHING 123' x 2' x 1/9 = 27 SY
659 - WATER 123' x 2' x 120 GAL/1000 SF x 1/1000 = 0.04 MGAL
659 - COMMERCIAL FERTILIZER
123' x 2' x 20#/1000 SF x 1/2000 = 0.003 TON
203 - EXCAVATION (NIEC) ((4' + 10')/2) 46' x 0.75' x 1/27 = 9 CY
407 - TACK COAT ((4' + 10')/2) 46' x 1/9 x 0.1 GAL/SY = 4 GAL
301 - 3" BITUM. AGG. BASE 36 SY x 9 x 0.25' x 1/27 = 3 CY
446 - 1 1/4" ASPH. CONC. TYPE I 36 SY x 9 x 0.1042' x 1/27 = 1 CY
301 - BITUM. AGG. BASE VAR. DEPTH
36 SY x 9 x 0.75' x 1/27 = 9 CY

* EXCAVATION (NIEC) = EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION.

(12P) STA. 16+42.67A TO STA. 19+47.75A RAMP A & SB I-71

202 - CURB REMOVED, AS PER PLAN A = 133 LF
203 - EMBANKMENT 2' x ((0.2292' + 0)/2) x 133' x 1/27 = 1.1 CY
659 - SEEDING & MULCHING 133' x 2' x 1/9 = 30 SY
659 - WATER 133' x 2' x 120 GAL/1000 SF x 1/1000 = 0.03 MGAL
659 - COMMERCIAL FERTILIZER
133' x 2' x 20#/1000 SF x 1/2000 = 0.003 TON
202 - CURB REMOVED, AS PER PLAN B = 148 LF
301 - BITUM. AGG. BASE VAR. DEPTH
148' x 0.75' x 1' x 1/27 = 4 CY
407 - TACK COAT 148' x 1' x 1/9 x 0.1 GAL/SY = 1.6 GAL
446 - 1 1/2" ASPH. CONC. TYPE II 148' x 0.125' x 1' x 1/27 = 0.7 CY
446 - 1 1/4" ASPH. CONC. TYPE I 148' x 0.1042' x 1' x 1/27 = 0.6 CY

(13P) STA. 12+25D TO STA. 17+11.60D RAMP D & NB I-71

202 - CURB REMOVED, AS PER PLAN A = 165 LF
202 - CURB REMOVED, AS PER PLAN B = 321.6 LF
203 - EMBANKMENT 165' x 2' x ((0.2292' + 0)/2) x 1/27 = 1.4 CY
659 - SEEDING & MULCHING 165' x 2' x 1/9 = 37 SY
659 - WATER 165' x 2' x 120 GAL/1000 SF x 1/1000 = 0.04 MGAL
659 - COMMERCIAL FERTILIZER
165' x 2' x 20#/1000 SF x 1/2000 = 0.003 TON
301 - BITUM. AGG. BASE VAR. DEPTH
321.6' x 0.75' x 1' x 1/27 = 8.9 CY
407 - TACK COAT 321.6' x 1' x 1/9 x 0.1 GAL/SY = 4 GAL
446 - 1 1/4" ASPH. CONC. TYPE I 321.6' x 0.1042' x 1' x 1/27 = 1.2 CY
301 - 3" BITUM. AGG. BASE 321.6' x 0.25' x 1' x 1/27 = 3 CY

(14P) STA. 2+94.93C RAMP C & SB I-71

202 - CONCRETE MEDIAN REMOVED ((4' + 10')/2) 36' x 1/9 = 28 SY
202 - CURB REMOVED, AS PER PLAN A 65' + 66' = 131 LF
203 - EMBANKMENT 131' x 2' x ((0.3542' + 0)/2) x 1/27 = 1.7 CY
659 - SEEDING & MULCHING 131' x 2' x 1/9 = 29 SY
659 - WATER 131' x 2' x 120 GAL/1000 SF x 1/1000 = 0.03 MGAL
659 - COMMERCIAL FERTILIZER
131' x 2' x 20#/1000 SF x 1/2000 = 0.003 TON
203 - EXCAVATION (NIEC) 28 SY x 9 x 0.75' x 1/27 = 7 CY
407 - TACK COAT 28 SY x 9 x 0.1 GAL/SY = 2.8 GAL
301 - BITUM. AGG. BASE VAR. DEPTH
28 SY x 9 x 0.75' x 1/27 = 7 CY
301 - 3" BITUM. AGG. BASE 28 SY x 9 x 0.25' x 1/27 = 2.3 CY
446 - 1 1/4" ASPH. CONC. TYPE I 28 SY x 9 x 0.1042' x 1/27 = 1 CY

(15P) STA. 8+50E TO STA. 12+06.08E RAMP E & SB I-71

202 - CURB REMOVED, AS PER PLAN A = 100 LF
202 - CURB REMOVED, AS PER PLAN B = 256 LF
203 - EMBANKMENT 100' x 2' x ((0.2292' + 0)/2) x 1/27 = 0.9 CY
659 - SEEDING & MULCHING 100' x 2' x 1/9 = 22 SY
659 - WATER 100' x 2' x 120 GAL/1000 SF x 1/1000 = 0.02 MGAL
659 - COMMERCIAL FERTILIZER
100' x 2' x 20#/1000 SF x 1/1000 = 0.002 TON
301 - BITUM. AGG. BASE VAR. DEPTH 256' x 1' x 0.75' x 1/27 = 7 CY
301 - 3" BITUM AGG. BASE 256' x 1' x 0.25' x 1/27 = 2.4 CY
407 - TACK COAT 256' x 1' x 1/9 x 0.1 GAL/SY = 2.8 GAL
446 - 1 1/4" ASPH. CONC. TYPE I 256' x 1' x 0.1042' x 1/27 = 1 CY

NOTE: TOTALS CARRIED TO GENERAL SUMMARY SHEETS UNLESS OTHERWISE NOTED.
(1P) THRU (15P) QUANTITIES CARRIED TO ESTIMATED QUANTITY SHEETS UNLESS OTHERWISE NOTED.

PAVEMENT CALCULATIONS

(16P) STA. 6+18 F TO STA. 7+44.01 F (RAMP F & NB I-71)

202 - CURB REMOVED, AS PER PLAN A = 134 LF
203 - EMBANKMENT 146'x 2'x ((0.3542'+0')/2) x 1/27 = 1.9 CY
659 - SEEDING & MULCHING 146'x 2'x 1/9 = 32 SY
659 - WATER 146'x 2'x 120 GAL/1000 SF x 1/1000 = 0.04 MGAL
659 - COMMERCIAL FERTILIZER 146'x 2'x 20#/1000 SF x 1/2000 = 0.003 TON
202 - CONC. MEDIAN REMOVED ((10+12')/2) 25'x 1/9 = 31 SY

(17P) STA. 4+29.08A TO STA. 5+29.08A (RAMP A TO SB I-71)

202 - CONC. MEDIAN REMOVED ((4'+10')/2) 39'x 1/9 = 30 SY
202 - CURB REMOVED, AS PER PLAN A 62'+62' = 124 LF
203 - EMBANKMENT 124'x 2'x ((0.2292'+0)/2) x 1/27 = 1.1 CY
659 - SEEDING & MULCHING 124'x 2'x 1/9 = 28 SY
659 - WATER 124'x 2'x 120 GAL/1000 SF x 1/1000 = 0.03 MGAL
659 - COMMERCIAL FERTILIZER 124'x 2'x 20#/1000 SF x 1/2000 = 0.003 TON
203 - EXCAVATION (NIEC) ((4'+10')/2) 39'x 0.75'x 1/27 = 8 CY
407 - TACK COAT ((4'+10')/2) 39'x 1/9 x 0.1 GAL/SY = 3 GAL
301 - 9" BITUM. AGG. BASE ((4'+10)/2) 39'x 0.75'x 1/27 = 8 CY
446 - 1½" ASPH. CONC. TYPE II ((4'+10')/2) 39'x 0.125'x 1/27 = 1.3 CY
446 - 1¼" ASPH. CONC. TYPE I ((4'+10')/2) 39'x 0.1042'x 1/27 = 1.0 CY

(18P) STA. 13+74.12 B TO STA. 16+74.12 B
RAMP B TO SB REDBANK EXPRESSWAY

202 - CURB REMOVED, AS PER PLAN A = 91 LF
202 - CURB REMOVED, AS PER PLAN B = 218 LF
203 - EMBANKMENT 91'x 2'x ((0.2292'+0)/2) x 1/27 = 0.8 CY
659 - SEEDING & MULCHING 91'x 2'x 1/9 = 20 SY
659 - WATER 91'x 2'x 120 GAL/1000 SF x 1/1000 = 0.02 MGAL
659 - COMMERCIAL FERTILIZER 91'x 2'x 20#/1000 SF x 1/2000 = 0.002 TON
301 - 9" BITUM. AGG. BASE 218'x 1'x 0.75'x 1/27 = 6.1 CY
407 - TACK COAT 218'x 1'x 1/9 x 0.1 GAL/SY = 2.4 GAL
446 - 1½" ASPH. CONC. TYPE II 218'x 1'x 0.125'x 1/27 = 1.0 CY
446 - 1¼" ASPH. CONC. TYPE I 218'x 1'x 0.1042'x 1/27 = 0.8 CY

(19P) NOT USED

(20P) NOT USED

(21P) STA. 536+00 TO STA. 540+83 (LEFT)

622 - CONCRETE BARRIER, TYPE D, AS PER PLAN A = 34 LF
203 - EXCAVATION (NIEC) 4'x 0.5'x 34'x 1/27 = 3 CY
203 - EMBANKMENT 4'x ((0.25'+0)/2) x 34'x 1/27 = 1 CY
659 - SEEDING & MULCHING 4'x 39'x 1/9 = 17 SY
659 - WATER 4'x 39'x 120 GAL/1000 SF x 1/1000 = 0.02 MGAL
659 - COMMERCIAL FERTILIZER 4'x 39'x 20#/1000 SF x 1/2000 = 0.002 TON

(22P) STA. 467+62.27 ℄ TO STA. 467+87.27 ℄ (NB I-71)
HAM-71-0965R

202 - APPR. SLAB REMOVED 22'x 55'x 1/9 = 134.4 SY
203 - EXCAVATION (NIEC) [(8'x 25')+(10'x 25')] x 1.125'x 1/27 = 19 CY
611 - REINF. CONC. APPR. SLAB (T=17"), APP [(22'x 55')+(8'x 25')+(10'x 25')] x 1/9 = 184.4 SY

(23P) STA 469+50.23 ℄ TO STA. 469+75.23 ℄ (NB I-71)
HAM-71-0965R

202 - APPR. SLAB REMOVED ((70'+72')/2) x 22'x 1/9 = 173.6 SY
203 - EXCAVATION (NIEC) [(25'x 8')+(25'x 10')] x 1.125'x 1/27 = 19 CY
611 - REINF. CONC. APPR. SLAB (T=17"), APP [((70'+72')/2) 22'+(25'x 8')+(25'x 10')] x 1/9 = 223.6 SY

(24P) STA. 467+62.27 ℄ TO STA. 467+87.27 ℄ (SB I-71)
HAM-71-0965 L

202 - APPR. SLAB REMOVED 53'x 22'x 1/9 = 129.6 SY
203 - EXCAVATION (NIEC) [(8'x 25')+(10'x 25')] x 1.125'x 1/27 = 19 CY
611 - REINF. CONC. APPR. SLAB (T=17"), APP [(53'x 22')+(8'x 25')+(10'x 25')] 1/9 = 179.6 SY

(25P) STA. 469+50.23 ℄ TO STA. 469+75.23 ℄ (SB-I-71)
HAM-71-0965 L

202 - APPR. SLAB REMOVED ((69'+71')/2) 22'x 1/9 = 171.1 SY
203 - EXCAVATION (NIEC) (8'+10') x 25'x 1.125'x 1/27 = 19 CY
611 - REINF. CONC. APPR. SLAB (T=17"), APP [((69'+71')/2) 22'+(8'+10') 25'] x 1/9 = 221.1 SY

(26P) STA. 8+01.13A TO STA. 8+26.13A (RAMP A)
HAM-71-0986

203 - EXCAVATION (NIEC) (7+3) 25'x 1.125'x 1/27 = 10.4 CY
611 - REINF. CONC. APPR. SLAB (T=17"), APP (7+3) 25'x 1/9 = 27.8 SY
SPECIAL - MSMCO 16'x 25'x 1/9 = 44.4 SY

(27P) STA 11+02.76A TO STA. 11+27.76A (RAMP A)
HAM-71-0986

203 - EXCAVATION (NIEC) (7'+3') 25'x 1.125'x 1/27 = 10.4 CY
611 - REINF. CONC. APPR. SLAB (T=17"), APP (7'+3') 25'x 1/9 = 27.8 SY
SPECIAL - MSMCO 16'x 25'x 1/9 = 44.4 SY

(28P) STA. 16+38.36C TO STA. 16+63.36C (RAMP C)
HAM-71-0987

203 - EXCAVATION (NIEC) (7'+3') 25'x 1.125'x 1/27 = 10.4 CY
611 - REINF. CONC. APPR. SLAB (T=17") APP (7'+3') 25'x 1/9 = 27.8 SY
SPECIAL - MSMCO 16'x 25'x 1/9 = 44.4 SY

(29P) STA. 21+52.31C TO STA. 21+77.31C (RAMP C)
HAM-71-0987

203 - EXCAVATION (NIEC) (7'+3') 25'x 1.125'x 1/27 = 10.4 CY
611 - REINF. CONC. APPR. SLAB (T=17") APP (7'+3') 25'x 1/9 = 27.8 SY
SPECIAL - MSMCO 16'x 25'x 1/9 = 44.4 SY

(30P) STA. 519+74.05 ℄ TO STA. 519+99.05 ℄ (NB I-71)
HAM-71-1063R

203 - EXCAVATION (NIEC) (6.5'+11.17') 25'x 1.125'x 1/27 = 18.4 CY
202 - APPR. SLAB REMOVED 80'x 20'x 1/9 = 177.8 SY
611 - REINF. CONC. APPR. SLAB (T=17"), APP [(6.5'+11.17') 25'+(80'x 20')] x 1/9 = 271.3 SY

(31P) STA. 522+87.46 ℄ TO STA. 523+12.46 ℄ (NB I-71)
HAM-71-1063R

203 - EXCAVATION (NIEC) (7.75'+7') 25'x 1.125'x 1/27 = 15.4 CY
202 - APPR. SLAB REMOVED 94'x 20'x 1/9 = 208.9 SY
611 - REINF. CONC. APPR. SLAB (T=17") APP [(7.75'+7') 25'+(94'x 20')] x 1/9 = 249.9 SY

(32P) STA. 519+92.08 ℄ TO STA. 520+17.08 ℄ (SB I-71)
HAM-71-1063L

203 - EXCAVATION (NIEC) (8.5'+10.17') 25'x 1.125'x 1/27 = 19.5 CY
202 - APPR. SLAB REMOVED 50'x 20'x 1/9 = 111.1 SY
611 - REINF. CONC. APPR. SLAB (T=17"), APP [(8.5'+10.17') 25'+(50'x 20')] x 1/9 = 163 SY

(33P) STA. 522+80.47 ℄ TO STA. 523+05.47 ℄ (SB I-71)
HAM-71-1063L

203 - EXCAVATION (NIEC) (7.7'+9.17') 25'x 1.125'x 1/27 = 17.6 CY
202 - APPR. SLAB REMOVED 45'x 20'x 1/9 = 100 SY
611 - REINF. CONC. APPR. SLAB (T=17"), APP [(7.7'+9.17') 25'+(45'x 20')] x 1/9 = 146.9 SY

(34P) STA. 7+21A RAMP A (HAM-71-0986)

SPECIAL - PRESSURE RELIEF JOINT, TYPE C = 18 LF

(35P) STA. 12+28A RAMP A (HAM-71-0986)

SPECIAL - PRESSURE RELIEF JOINT, TYPE C = 18 LF

(36P) STA. 15+35C RAMP C (HAM-71-0987)

SPECIAL - PRESSURE RELIEF JOINT, TYPE C = 18 LF

(37P) STA. 22+52C RAMP C (HAM-71-0987)

SPECIAL - PRESSURE RELIEF JOINT, TYPE C = 18 LF

* EXCAVATION (NIEC) = EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION.

MSMCO = MICRO-SILICA MODIFIED CONCRETE OVERLAY (1.75" THICK)

NOTE: QUANTITIES CARRIED TO ESTIMATED QUANTITY SHEETS UNLESS OTHERWISE NOTED.

ACAD FILENAME: ********.DWG

GENERAL SUMMARY

SHEET NUMBERS																				ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	Detail Sht. Number
GENERAL				SECTION 1								SECTION 2													
24D	25	27	28	82	123	124	125	126		129	130	87	88	131	132	133		135							
																								ROADWAY	
																				201	11000	Lump	–	Clearing And Grubbing (See GN)	
										1033	2323							1207		202	22900	4,563	Sq. Yd.	Approach Slab Removed	
											43									202	22901	43	Sq. Yd.	Approach Slab Removed, As Per Plan (See GN)	18
				12,234								5,924								202	23000	18,158	Sq. Yd.	Pavement Removed	
												494								202	23500	494	Sq. Yd.	Wearing Course Removed	
										4,262	119	18,678						125		202	30600	23,184	Sq. Yd.	Concrete Median Removed	
				817						16,139	265	21,999				6				202	32000	39,226	Lin. Ft.	Curb Removed	
																		1001		202	32001	1,001	Lin.Ft.	Curb Removed, As Per Plan A (See GN)	20
											559							944		202	32001	1,503	Lin.Ft.	Curb Removed, As Per Plan B (See GN)	20
					14,825									17,356.25						202	38000	32,181.25	Lin. Ft	Guardrail Removed	
					4,125									11,600						202	38300	15,725	Lin. Ft.	Guardrail Removed, Barrier Design	
					30									19						202	42000	49	Each	Anchor Assembly Removed, Type A	
					24									13						202	42206	37	Each	Anchor Assembly Removed, Type T	
														1						202	4250[illegible]	1	Each	Anchor Assembly Removed For Storage, Type E (See GN)	
					27									19						202	47000	46	Each	Bridge Terminal Assembly Removed	
	1,803																			202	54100	1,803	Each	Raised Pavement Markers Removed For Storage (See GN)	
	41																			202	54101	41	Each	Raised Pavement Markers Removed For Storage, As Per Plan (See GN)	
							2	1								2				202	58100	5	Each	Catch Basin Removed	
																20				202	58200	20	Each	Inlet Removed	
						9,863									25,587					202	75001	35,450	Lin Ft.	Fence Removed, As Per Plan (See GN)	27A
					1															202	98100	1	Each	Removal, Misc.: Impact Attenuator Removed for Storage (See GN)	27A
						3														202	75250	3	Each	Gate Removed	
2																				202	75300	2	Each	Pull Box Removed	
					2															202	98100	2	Each	Removal Miscellaneous: Impact Attennuator, Removed For Disposal	
										303	111	4,823				4		2,218		203	12000	7,459	Cu. Yd.	Excavation Not Including Embankment Construction	
											2							57		203	20000	59	Cu. Yd.	Embankment	
																				Special	20303200	200	Tons	Hydrated Lime (See GN)	27A
				16,247									8334							203	50000	24,581	Sq. Yd.	Subgrade Compaction	
												97.9								203	60200	97.9	Station	Linear Grading, Method A (See GN)	
												40.9								203	60204	40.9	Station	Linear Grading, Method B (See GN)	
												80.3								203	60300	80.3	Station	Linear Grading, Method C (See GN)	
																				203	55000	2500	Lin. Ft.	Ditch Cleanout (See GN)	27A
27																				603	00400	27	Lin. Ft.	4" Conduit, Type E	
					8712.5/25 *									18,062.5/512.5 *						606	13000	27,313	Lin. Ft.	Guardrail, Type 5	
					175									175						606	13050	350	Lin. Ft.	Guardrail, Type 5A	
					50															606	15500	50	Lin. Ft.	Guardrail Barrier Design, Type 5	
					17									18						606	26100	35	Each	Anchor Assembly, Type E	
					19									11						606	26500	30	Each	Anchor Assembly, Type T	
					1															606	32501	1	Each	Bridge Terminal Assembly, Type F, As Per Plan (See GN)	22
					1															606	32500	1	Each	Bridge Terminal Assembly, Type F	
					18									15						606	35000	33	Each	Bridge Terminal Assembly, Type 1	
					1															606	35001	1	Each	Bridge Terminal Assembly, Type 1, As Per Plan (See GN)	22
					18									10						606	35100	28	Each	Bridge Terminal Assembly, Type 2	
						9,863									25,648					607	23000	35,511	Lin. Ft.	Fence, Type CLT	
						513														607	23001	513	Lin. Ft.	Fence, Type CLT, As Per Plan (See GN)	24C
						4														607	61200	4	Each	Gate, Type CLT	
58																				625	25500	58	Lin. Ft.	Conduit, 3", 713.04	
20																				625	29000	20	Lin. Ft.	Trench	
560																				632	27500	560	Lin. Ft.	Loop Detector Pavement Cutting	
1310																				632	64900	1310	Lin. Ft.	Loop Detector Wire, Type E	
304																				632	65200	304	Lin. Ft.	Loop Detector Lead-in Cable	
6																				632	90400	6	Each	Piezocable Axle Sensor, SIGNALIZATION MISC.	
					2															Special	69010400	2	Each	Impact Attenuator, Hex Foam Sandwich System, Model No. 111311H8S (See GN)	19
					6															Special	69010400	6	Each	Impact Attenuator, Hex Foam Sandwich System, Model No. 209508H8S (See GN)	19,20,24C
					1															Special	69010400	1	Each	Impact Attenuator, Hex Foam Sandwich System, Model No. 209508H6S (See GN)	19
		1																		Special	69010410	1	Each	Replacement Impact Attenuator, Model No. 111311H8S (See GN)	
		2																		Special	69010410	2	Each	Replacement Impact Attenuator, Model No. 209508H8S (See GN)	
		1																		Special	69010410	1	Each	Replacement Impact Attenuator, Model No. 209508H6S (See GN)	
			9																	Special	69098000	9	Each	Roadway, Misc. – Tunnel Closure (See GN)	28

* 100% Federal CMAQ Funds

NOTE: "(See GN)" Denotes to See General Notes, Sheets 25–28.

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GENERAL SUMMARY

SHEET NUMBERS: GENERAL			SECTION 1									SECTION 2								ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	Detail Sht. Number
27A	25	27	82			125	126	127	128	129	130	87	88		132	133	134	135							
																								EROSION CONTROL	
	3,850																			207	10000	3,850	Sq. Yd.	Temporary Seeding And Mulching (See GN)	
	2,000																			207	30000	2,000	Lin. Ft.	Filter Fabric Fence	
	500																			207	70000	500	Each	Straw or Hay Bales	
										554										601	11001	554	Sq. Yd.	Riprap Using 6" Reinforced Concrete Slab, As Per Plan (See GN)	8,11
										212										601	21000	212	Sq. Yd	Concrete Slope Protection	13
															93					601	34100	93	Cu. Yd	Rock Channel Protection, Type B Without Filter	
																		3		601	34200	3	Cu. Yd.	Rock Channel Protection, Type C Without Filter	
												10,869								601	37501	10,869	Lin. Ft	Paved Gutter, Type 1-2, As Per Plan (See GN)	
		1,000	3,342							2,804	21		11,805					1308		659	10000	20,280	Sq. Yd.	Seeding And Mulching	
	963																			659	14000	963	Sq. Yd.	Repair Seeding and Mulching (See GN)	
	0.18	0.09	0.30							0.25	0.002		1.06					0.12		659	20000	2.01	Ton	Commercial Fertilizer	
	8.3	3	3.61							3.02	0.02		12.75					1.42		659	35000	33	M. Gal	Water	
																27				670	40000	27	Sq. Yd.	Ditch Erosion Protection (See GN)	
																								DRAINAGE	
									490								1299			603	00406	1,789	Lin. Ft.	4" Conduit, Type F, 707.17 Non-Perforated, ASTM D-3034 SDR35, SS931 or SS944	137A,B
									382								1048			603	01500	1,430	Lin. Ft.	6" Conduit, Type F, 707.17 Non-Perforated, ASTM D-3034 SDR35, SS931 or SS944	137A,B
						160														603	04400	160	Lin. Ft.	12" Conduit, Type B, 706.01	
						52	8	4												603	05900	64	Lin. Ft.	15" Conduit, Type B 706.01	
																192				603	05900	192	Lin. Ft.	15" Conduit, Type B 706.02	
						10														603	05900	10	Lin. Ft.	15" Conduit, Type B 707.13	
																159				603	06100	159	Lin. Ft.	15" Conduit, Type C, 706.02	
						166														603	97000	166	Lin. Ft.	Slotted Drain: 15", Type B, 707.13	
																7				604	01604	7	Each	Catch Basin, No. 5 Without Apron	
						1														604	04900	1	Each	Catch Basin, No. 2-3.	
						37	56	27								6				604	09000	126	Each	Catch Basin Adjusted To Grade	
																1				604	14600	1	Each	Inlet, No. 3B	
						4	1													604	14601	5	Each	Inlet, No. 3B, As Per Plan (See GN)	136B
						5		1												604	14602	6	Each	Inlet, No. 3B50	
						6										31				604	14603	37	Each	Inlet, No. 3B50, As Per Plan (See GN)	136B
						3														604	14603	3	Each	Inlet, No. 3B50, As Per Plan A (See GN)	136B
																2				604	15150	2	Each	Inlet, No. 3D	
						32	23	4								15				604	34500	74	Each	Manhole Adjusted To Grade	
																1				604	35500	1	Each	Manhole Reconstructed To Grade	
																	4,146			605	05101	4,146	Lin. Ft.	4" Shallow Pipe Underdrain 707.15, As Per Plan	137B
									34								190			605	05200	224	Lin. Ft	4" Unclassified Pipe Underdrain	
									881								1,537			605	11100	2,418	Lin. Ft.	6" Shallow Pipe Underdrain	
1450									2,637								849			605	13300	4936	Lin. Ft.	6" Unclassified Pipe Underdrain (See GN)	27A
									23,654								43,101			605	30001	66,755	Lin. Ft.	Shallow Underdrain, As Per Plan	137A
72																	56			Special	60436600	128	Each	Precast Reinforced Concrete Outlet (See GN)	137A,B
																								PAVEMENT	
	470																			251	01000	470	Sq. Yd.	Partial Depth Pavement Repair	
	117,641		9,868									322								254	01000	127,831	Sq. Yd.	Pavement Planing, Bituminous	
	12,000																			255	10000	12,000	Sq. Yd.	Full Depth Pavement Removal And Rigid Replacement Class C (See GN)	20
	43,000																			255	20000	43,000	Lin. Ft	Full Depth Pavement Sawing	20
		50	9,175							64	24	14,313						61		301	10002	23,687	Cu. Yd.	Bituminous Aggregate Base, AC-20	
			4,062							126		3,548								304	20001	7,736	Cu. Yd.	Aggregate Base, As Per Plan (See GN)	
												984								310	10001	984	Cu. Yd.	Subbase, As Per Plan	
			9,374									13,876						21		407	13900	23,271	Gallon	Tack Coat Using SS 924 (See GN)	
			4,062							142		3,231								408	10000	7,435	Gallon	Bituminous Prime Coat	
			4333									6428						3		446	01200	10,764	Cu. Yd.	Asphalt Concrete Intermediate Course, Type 2, AC-20	
	2500																			255	10100	2500	Sq. Yd.	Full Depth Pavement Removal and Rigid Replacement Class FS (GN)	20
225																				255	10200	225	Sq. Yd.	Full Depth Pavement Removal and Rigid Replacement, Misc.: Combination Pavement Removal, Class C Replacement (See GN)	27A

NOTE: "(See GN)" Denotes to See General Notes, Sheets 25-28.

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GENERAL SUMMARY

SHEET NUMBERS: GENERAL			SECTION 1									SECTION 2								ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	Detail Sht. Number
		27	82							129	130		87			133		135							
																								PAVEMENT (Continued)	
			2256							17	3		1794					7		446	01400	4057	Cu. Yd.	Asphalt Concrete Surface Course, Type 1, AC-20	
		184,107																		413	14000	184,107	Lin. Ft.	Sawing and Sealing Asphalt Concrete Pavement Joint, 705.04 (See GN)	20
											106							72		Special	45132000	178	Lin. Ft.	Pressure Relief Joint, Type C	
										503	15									452	09000	518	Sq.Yd.	4" Plain Concrete Pavement	
																24				452	10000	24	Sq.Yd.	6" Plain Concrete Pavement	
		300																		Special	45036100	300	Cu.Yd.	Patching Existing Paved Shoulder (See GN)	
													10,888							516	13400	10,888	Sq. Ft.	3/4" Preformed Expansion Joint Filler	
										218	15									518	21100	233	Cu. Yd.	Porous Backfill, 518.02	
											408							178		845	40210	586	Sq.Yd.	LATEX Modified Concrete MISC. Overlay (1.75" Thick)	
										315										609	12001	315	Lin. Ft.	Combination Curb and Gutter, Type 2, As Per Plan (See GN)	24B
																6				609	14000	6	Lin. Ft.	Curb, Type 2-A	
			580								70									609	26000	650	Lin. Ft.	Curb, Type 6	
											45									611	25000	45	Sq. Yd.	Reinforced Concrete Approach Slab (T=15")	
											43									611	25001	43	Sq. Yd.	Reinforced Concrete Approach Slab (T=15"), As Per Plan (See GN)	18
										1,433	1,049							1,751		611	30001	4,233	Sq. Yd.	Reinforced Concrete Approach Slab (T=17"), As Per Plan (See GN)	19,21,24B
											1,497									611	35000	1,497	Sq. Yd.	Reinforced Concrete Approach Slab (Variable Thickness) (See GN)	18,19
											24									612	42000	24	Sq. Yd.	Concrete Median, (See GN)	22
											1		726							617	10101	727	Cu. Yd.	Compacted Aggregate, Type A, As Per Plan (See GN)	27A
										446										622	23301	446	Lin. Ft.	Concrete Barrier, Type A As Per Plan (See GN)	18,24A
										659										622	23401	659	Lin. Ft.	Concrete Barrier, Type B, As Per Plan B (See GN)	18,19
																		699		622	23401	699	Lin. Ft.	Concrete Barrier, Type B, As Per Plan A (See GN)	16
																		176		622	23401	176	Lin. Ft.	Concrete Barrier, Type B, As Per Plan C (See GN)	16
										1,745										622	23404	1,745	Lin. Ft.	Concrete Barrier, Type B-50	
										47										622	23405	47	Lin. Ft.	Concrete Barrier, Type B-50, As Per Plan (See GN)	24B
										156										622	23405	156	Lin. Ft.	Concrete Barrier, Type B-50, As Per Plan A (See GN)	24B
										100										622	23405	100	Lin. Ft.	Concrete Barrier, Type B-50, As Per Plan B (See GN)	21
																		308		622	23500	308	Lin. Ft.	Concrete Barrier, Type C	
										9,626										622	24000	9,626	Lin. Ft.	Concrete Barrier, Type D	
										3,169										622	24001	3,169	Lin. Ft.	Concrete Barrier, Type D, As Per Plan (See GN)	21
																		177		622	24001	177	Lin. Ft.	Concrete Barrier, Type D, As Per Plan A (See GN)	21
										1,952										622	24001	1,952	Lin. Ft.	Concrete Barrier, Type D, As Per Plan B (See GN)	21,23
											39									622	24001	39	Lin. Ft.	Concrete Barrier, Type D, As Per Plan C (See GN)	24C
										224										622	24001	224	Lin. Ft.	Concrete Barrier, Type D, As Per Plan D (See GN)	22
										2,796								20,850		622	24004	23,646	Lin. Ft.	Concrete Barrier, Type D-50	
																		2,225		622	24005	2,225	Lin. Ft.	Concrete Barrier, Type D-50, As Per Plan (See GN)	21
										1										630	84101	1	Each	Barrier Wall Assembly, Type TC-21.41, Design 1, As Per Plan (See GN)	18
										1										630	84201	1	Each	Barrier Wall Assembly, Type TC-21.41, Design 2, As Per Plan (See GN)	18

NOTE: "(See GN)" Denotes to See General Notes, Sheets 25-28.

GENERAL SUMMARY

SHEET NUMBERS: GENERAL 32B	GENERAL 32C	GENERAL 29A	SECTION 1 29	SECTION 1 30	SECTION 1 31	SECTION 1 32	SECTION 1 32A	SECTION 2 32	SECTION 2 32A	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	Detail Sht. Number
														MAINTENANCE OF TRAFFIC	
				600						614	11100	600	Hour	Law Enforcement Officer with Patrol Car	
			35							614	12470	35	Each	Work Zone Speed Limit Sign	
				500						Special	61412500	500	Sq. Ft.	Replacement Sign	
				1,000						Special	61412600	1,000	Each	Replacement Drum	
						1035		382		614	13350	1417	Each	Object Markers	
						1035		382		614	13300	1,417	Each	Barrier Reflectors, Type B	
				5						614	18501	5	Each	Portable Changeable Message Sign, As Per Plan	
							8.57		14.29	614	20000	22.86	Mile	Temporary Lane Line, Class I	
							1.90		0.56	614	20300	2.46	Mile	Temporary Lane Line, Class I, 740.05, Type C	
							0.05			614	21300	0.05	Mile	Temporary Center Line, Class I, 740.05, Type C	
							24.78		33.93	614	22000	58.71	Mile	Temporary Edge Line, Class I	
							5.85		1.52	614	22300	7.37	Mile	Temporary Edge Line, Class I, 740.05, Type C	
							7279		7925	614	23000	15,204	Lin. Ft.	Temporary Channelizing Line, Class I	
							6169			614	23600	6169	Lin. Ft.	Temporary Channelizing Line, Class I, 740.05, Type C	
				10,432			17,991		22,298	615	35001	50,721	Sq. Yd.	Temporary Pavement, As Per Plan (See Sheets 29A, 30)	
						25,264		8,800		622	40020	34,064	Lin. Ft.	Portable Concrete Barrier, 32"	
					16					614	12350	16	Each	Temporary Impact Attenuator (G.R.E.A.T. Type) Model No. 200200NF6GCZ	
					14					Special	69010500	14	Each	Remove and Replace Impact Attenuator	
					1					614	12360	1	Each	Temporary Impact Attenuator, G.R.E.A.T. Type (Replacement)	
														Model No. Z00200NF6GCZ	
		100								404	35000	100	Cu. Yd.	Bituminous Concrete for Maintaining Traffic	
		42								604	20601	42	Each	Inlet Adjusted to Grade, As Per Plan	
		20								604	34501	20	Each	Manhole Adjusted to Grade, As Per Plan	
							10.20			614	22001	10.20	Mile	Temporary Edge Line, Class I, As Per Plan	
							2.50			614	98000	2.50	Mile	Temporary Pavement Marking, Misc.: Temporary Curb Marking	
		700								617	11000	700	Cu.Yd.	Compacted Aggregate for Spot Treament	
3536										630	97800	3536	Sq. Ft.	Signing, Misc.: Extru-sheet Signs, Furnish Only	
	697									630	97800	697	Sq. Ft.	Signing, Misc.: Temporary Overlay Signs, Furnish Only	
														For TRAFFIC CONTROL General Summary - See Sheet 230	
														For STRUCTURES 20' AND OVER General Summary - See Sheet 274,275,275A	
														For LIGHTING General Summary - See Sheet 145, 145A, 146, 147	
										619	15021	Lump	-	Field Office, Type C, As Per Plan (See GN)	
										623	10000	Lump	-	Construction Layout Stakes	
										624	10000	Lump	-	Mobilization	
										614	11000	Lump	-	Maintaining Traffic	
										Special	61925010	Lump	-	Computer Equipment for Type B or C Office	

NOTE: "(See GN)" Denotes to See General Notes, Sheets 25-28.

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CALC. BY DD DATE 9-23-93 | CHKD. BY PWP DATE 8-1-94

HAM-71-1.30/9.00

OHIO | FHWA REGION 5 | 93/401

LEGEND

- Shoulder Reconstruction
- Shoulder Overlay
- Shoulder Widening
- Pavement Transition
- Full Depth Shoulder Replacement
- Full Depth Pavement Replacement
- Pavement Feathering
- Pavement Planing, Bituminous with 1¼" Asphalt Overlay
- Approach Slab Widening and/or Removal and Replacement
- E — Anchor Assembly, Type E
- T — Anchor Assembly, Type T
- 1 — Bridge Terminal Assembly, Type 1
- 2 — Bridge Terminal Assembly, Type 2
- 5A — Guardrail, Type 5A (See Miscellaneous Detail Sheet 20)
- J — Bridge Terminal Assembly, Type J
- 8'~6"F — Item 603 – 6" Conduit, Type F 707.17 Non-Perforated, ASTM D-3034 SDR35, SS 931 or SS 944. The Callout Implies "8 Feet of 6" Conduit, Type F"
- 6"UD — Item 605 – 6" Shallow Pipe Underdrain
- 4"UUD — Item 605 – 4" Unclassified Pipe Underdrain
- UUD — Item 605 – 6" Unclassified Pipe Underdrain

IAPA – Intermediate Anchor Post Assembly
EPA – End Post Assembly
CPA – Corner Post Assembly
AC – Abutment Connection
DS – Denote the Location of a Proposed Drainage Slot Constructed in the Concrete Barrier, For Further Information See Sheet 21.

20 0 20 40 60
GRAPHIC SCALE IN FEET

PLAN DESCRIPTION	ODOT ITEM MASTER DESCRIPTION
I-3B50 Barrier Median Inlet	Inlet, No. 3B50
I-3B50 Barrier Median Inlet, As Per Plan	Inlet, No. 3B50, As Per Plan
I-3B50 Barrier Median Inlet, As Per Plan A	Inlet, No. 3B50, As Per Plan A
I-3B Barrier Median Inlet, As Per Plan	Inlet, No. 3B, As Per Plan

NOTE: See Sheet 136B for Additional Information and Details.
ODOT ITEM MASTER DESCRIPTION was used on the Estimated Quantities, General Summary and General Notes Sheets.
PLAN DESCRIPTION was used on the Plan Sheets.

NOTE: All Proposed Guardrail is Type 5 Unless Noted Otherwise.
Plan Sheets Show Location Of Existing Lighting, For Proposed Lighting Information, See Lighting Drawings.

NOTES

1) For Typical Sections, See Sheets 6-17.
2) For Quantities, See Sheets 123-130.

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Sta. 127+46.40 to Sta. 130+00 S.B.

CALC. BY AB DATE 9-23-94
CHKD. BY PWP DATE 9-9-94

NOTES

1) For Typical Sections, See Sheets 6-17.
2) For Quantities, See Sheets 123-130, 271A
3) For Paving Legend, See Sheet 93.
4) For Drainage Details, See Sheets 136A and 136B.
5) For Barrier Wall Transition at Sign, See Standard Drawing MC-9.4.
6) For Concrete Barrier, Type D Drainage Slot Detail, See Sheet 21.
7) For Concrete Barrier Transition Details at Tunnel Portal, See Sheet 24A.
8) Back Slope Proposed Overlay to Create Positive Drainage to the Tunnel Entrance.
9) Transition Concrete Barrier to Meet Retaining Wall Within 10', See Detail on Sheet 24C.
10) Full Depth Pavement Replacement is to Occur From Sta. 135+65NB/Sta. 133+56SB to Sta. 139+33.35NB/Sta. 137+44.55SB. For Pavement Elevations and Other Information, See the Original Construction Documents (HAM-71-0.93).
11) Existing Traffic Loop Detectors Shown, For New Automatic Traffic Recorder Information and Detail, See Sheet 24D.
12) "DS" Indicates the Location of a Proposed Drainage Slot in the Concrete Barrier, See Miscellaneous Detail Sheet 21.
13) For Additional Impact Attenuator Information, See General Note Sheet 27 and for Detail, See Sheet 19.
14) * Denotes Location of Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information, See Sheets 137A and 137B.

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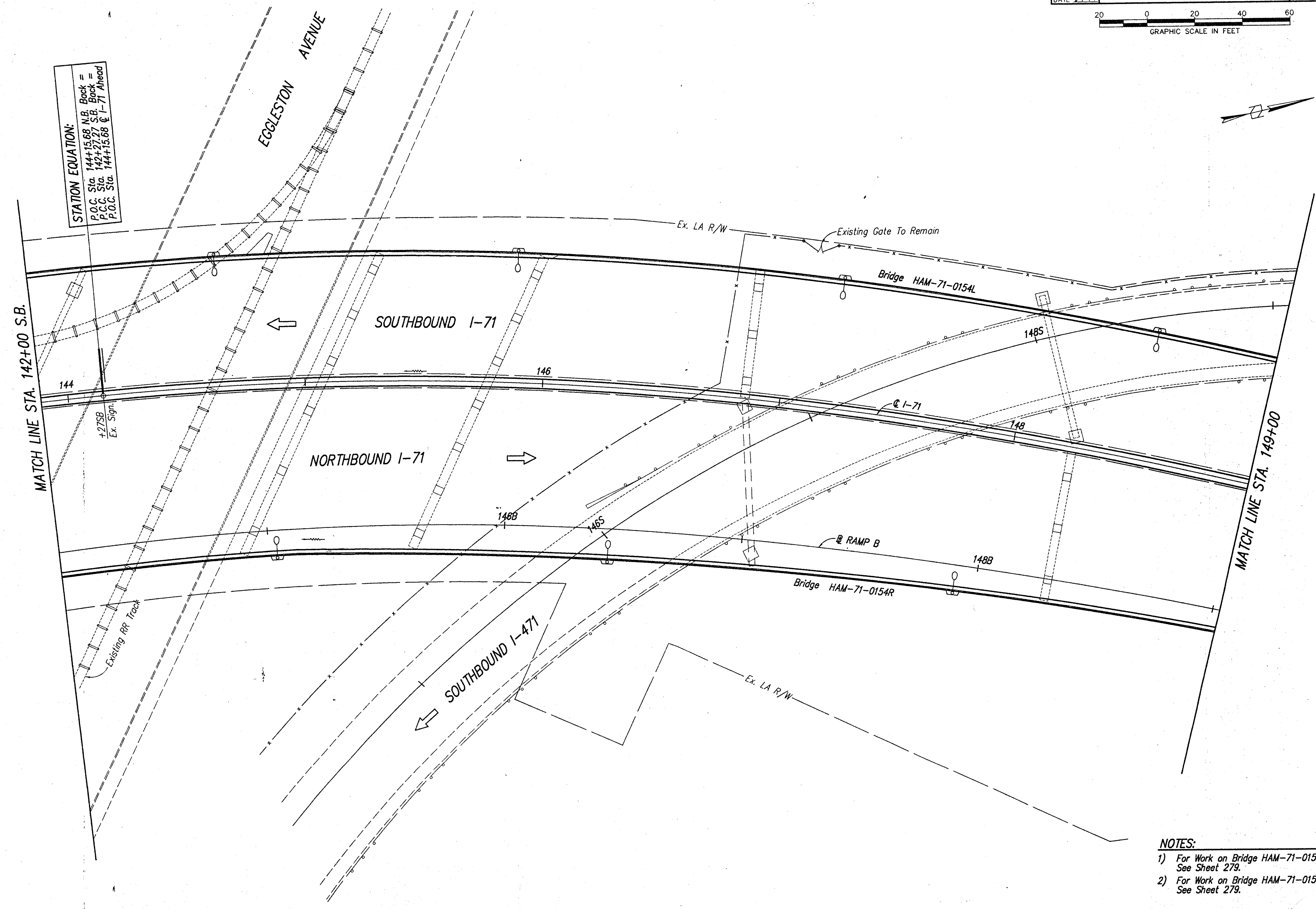
CALC. BY DLB DATE 9-03-96 CHKD. BY PWP DATE 9-1-97	HAM-71-1.30/9.00	OHIO	FHWA REGION 5	95/401

NOTES:

1) For Typical Sections, See Sheets 6-13.
2) For Quantities, See Sheets 123-130, 271A
3) For Paving Legend, See Sheet 93.
4) For Work on Bridge HAM-71-0154R (NB I-71), See Sheet 279.
5) For Work on Bridge HAM-71-0154L (SB I-71), See Sheet 279.
6) For Drainage Details, See Sheets 136A and 136B.
7) For Concrete Barrier Transition At Retaining Walls And Bridge Abutment Detail, See Sheet 21.
8) For Additional Impact Attenuator Information See The General Note Sheet 27, and For Detail See Sheet 19.
9) Carrier Bridge Concrete Barrier Dimensions Across the Approach Slab. Transition the Concrete Barrier, Type B50, to Meet the Approach Slab Barrier. For Bridge Concrete Barrier Information See Sheet 279. The Concrete Barrier Across the Approach Slab Shall be ITEM 622 - CONCRETE BARRIER, TYPE B50, AS PER PLAN B. The Cost of the Barrier Transition Shall be Included with ITEM 622 - CONCRETE BARRIER, TYPE B50.

CALC. BY DLB DATE 4-23-92 / CHKD. BY PWP DATE 8-1-94	HAM-71-1.30/9.00	OHIO FHWA REGION 5	96/401

20 0 20 40 60
GRAPHIC SCALE IN FEET



NOTES:

1) For Work on Bridge HAM-71-0154R (NB I-71), See Sheet 279.
2) For Work on Bridge HAM-71-0154L (SB I-71), See Sheet 279.

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NOTES

1) For Typical Sections, See Sheets 6-13.
2) For Quantities, See Sheets 123-130, 271A
3) For Paving Legend, See Sheet 93.
4) For Work on Bridge HAM-71-0154R/L (I-71), See Sheet 279.
5) For Drainage Details, See Sheets 136A and 136B.
6) For Barrier Wall Transition @ Sign, See Standard Drawing MC-9.4.
7) Transition Concrete Barrier to Meet Proposed Bridge Parapet, For Barrier Transition Detail, See Sheet 21.
8) Carrier Bridge Concrete Barrier Dimension Across the Approach Slab. Transition the Concrete Barrier Type B50 to meet the Approach Slab Barrier. For Bridge Concrete Barrier Information See Sheet 279. The cost for the Barrier Across the Approach Slab Shall be ITEM 622 - CONCRETE BARRIER, TYPE B50, AS PER PLAN B. The Cost of the Barrier Transition Shall be Included with ITEM 622 - CONCRETE BARRIER, TYPE B50.
9) For Curb Transition to meet Concrete Barrier, See Detail on Sheet 24B.
10) * Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information, See Sheets 137A and 137B.
11) "6'~6"F*" This is to be Used to Connect the Existing 6"UD to the New Inlet.

NOTES

1) For Typical Sections, See Sheets 6-13.
2) For Quantities, See Sheets 123-130, 271A
3) For Paving Legend, See Sheet 93.
4) For Work on Bridge HAM-71-0192 (I-71), See Sheet 296.
5) For Drainage Details, See Sheets 136A and 136B.
6) For Bridge Median Barrier Information, See Sheet 299. Transition Median Barrier to meet Bridge Barrier, Carry Bridge Barrier Widths Across Approach Slab.
7) for Barrier Wall Transition, See Standard Drawing MC-9.4.
8) Carrier Bridge Concrete Barrier Dimension Across the Approach Slab. Transition the Concrete Barrier Type B50 to meet the Approach Slab Barrier. For Bridge Concrete Barrier Information See Sheet 296. the cost for the Barrier Across the Approach Slab Shall be ITEM 622 - CONCRETE BARRIER, TYPE B50, AS PER PLAN B. The Cost of the Barrier Transition Shall be Included With ITEM 622 - CONCRETE BARRIER, TYPE B50.
9) For Impact Attenuator Detail and Information, See Sheets 19 and 24C.
10) For Curb Transition to meet Concrete Barrier, See Detail on Sheet 24B.
11) * Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information, See Sheets 137A and 137B.
12) "6"~6"F*" This is to be Used to Connect the Existing 6"UD to the New Inlet.

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NOTES

1) For Typical Sections, See Sheets 6-13.
2) For Quantities, See Sheets 123-130, 271A
3) For Paving Legend, See Sheet 93.
4) For Work on Bridge HAM-71-0192 R/L (I-71), See Sheet 296.
5) For Drainage Details, See Sheets 136A and 136B.
6) For Barrier Wall Transition, See Standard Drawing MC-9.4.
7) For Work on Bridge HAM-71-0202 (Ramp GG), See Sheet 312.
8) For Work on Bridge HAM-71-0192W (S.B. I-471), See Sheet 305.
9) For Concrete Barrier Transition at Bridge Abutment Detail, See Sheet 21.
10) For Impact Attenuator, Concrete Barrier Information, See Details on Sheet 19 and 20.
11) Carrier Bridge Concrete Barrier Dimension Across the Approach Slab. Transition the Concrete Barrier Type B50 to meet the Approach Slab Barrier. For Bridge Concrete Barrier Information See Sheet 296. the cost for the Barrier Across the Approach Slab Shall be ITEM 622 - CONCRETE BARRIER, TYPE B50, AS PER PLAN B. The Cost of the Barrier Transition Shall be Included With ITEM 622 - CONCRETE BARRIER, TYPE B50.
12) ITEM 607 - FENCE, TYPE CLT, AS PER PLAN Applys only to the Fence Mounted to the top of the Retaining Wall. For Additional Information, See Fence Detail on Sheet 24C.
13) * Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information, See Sheets 137A and 137B.
14) "6'~6"F*" This is to be Used to Connect the Existing 6"UD to the New Inlet.

NOTES

1) For Typical Sections, See Sheets 6-13.
2) For Quantities, See Sheets 123-130, 271A
3) For Paving Legend, See Sheet 93.
4) For Work on Bridge HAM-22-0145 (Gilbert Ave.), See Sheet 315.
5) For Drainage Details, See Sheets 136A and 136B.
6) Transition ITEM 452 - 4" PLAN CONCRETE PAVEMENT, From the top of the Concrete Barrier, Type D50 to Meet the Proppsed RIP RAP, AS PER PLAN Within 5'. For Additional Information See Sheet 24B.
7) * Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information, See Sheets 137A and 137B.

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CALC. BY DCB DATE 4-25-94	HAM-71-1.30/9.00	OHIO	101/401
CHKD BY PWP DATE 8-1-94		FHWA REGION 5	

NOTES

1) For Typical Sections, See Sheets 6-13.
2) For Quantities, See Sheets 123-130, 271A
3) For Paving Legend, See Sheet 93.
4) For Work on Bridge HAM-22-0145 (GILBERT AVE.), See Sheet 315.
5) For Work on Bridge HAM-71-0228 (RAMP RD), See Sheet 326.
6) For Work on Bridge HAM-71-0235R (NB READING RD), See Sheet 333.
7) For Work on Bridge HAM-71-0221 (ELSINORE PLACE), See Sheet 321.
8) For Drainage Details, See Sheets 136A and 136B.
9) Form Barrier Footing Around Adjusted Manhole to Allow for Access.
10) For Work on Bridge HAM-71-0226 (PENNSYLVANIA RAIL ROAD) See Sheet 325A.
11) For Curb Transition to meet Concrete Barrier Detail, See Sheet 24B.
12) * Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information See Sheets 137A and 137B.

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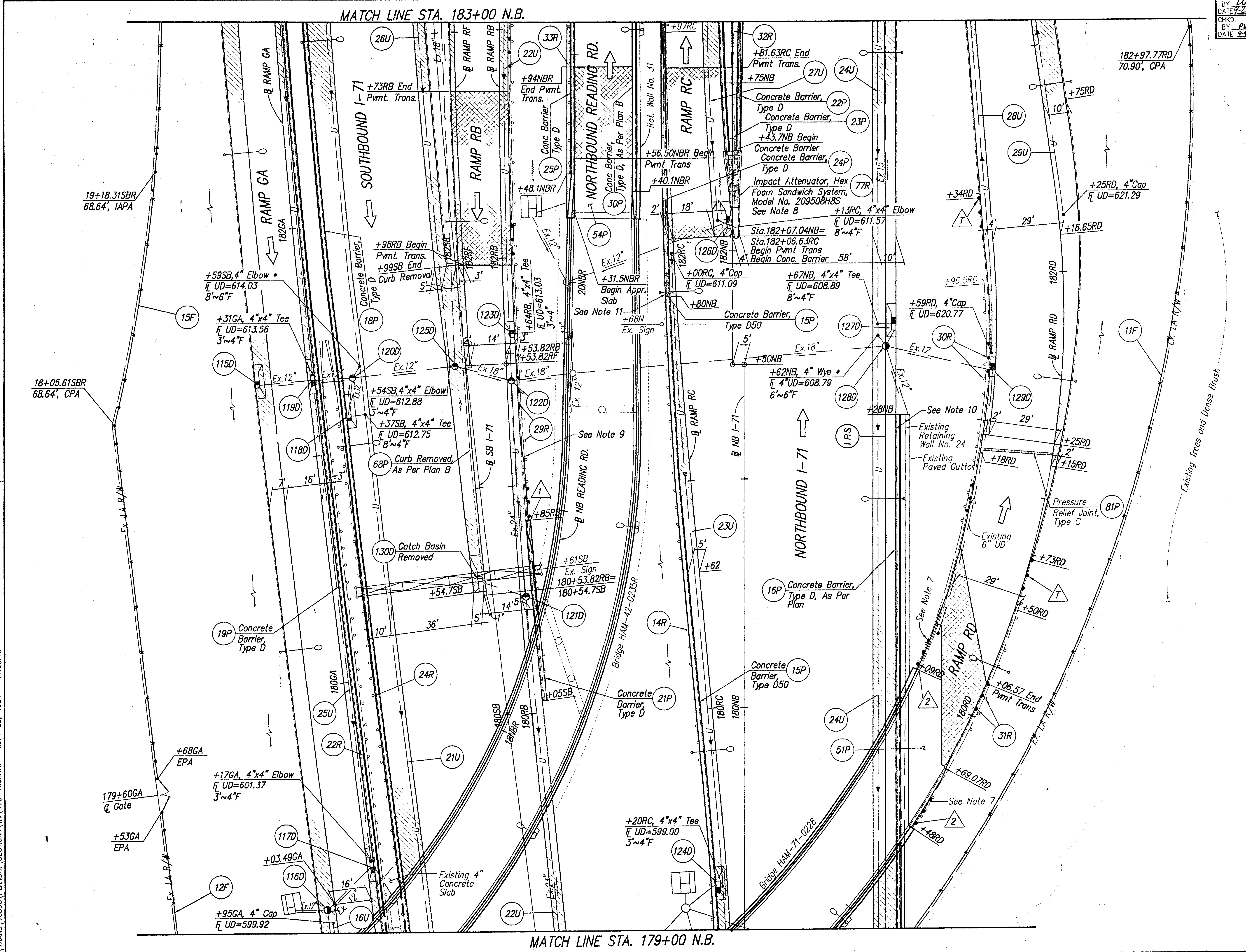
Sta. 173+00 N.B. to Sta. 179+00 N.B.



NOTES

1) For Typical Sections, See Sheets 6-13.
2) For Quantities, See Sheets 123-130, 271A
3) For Paving Legend, See Sheet 93.
4) For Work on BRIDGE HAM-71-0228 (RAMP RD), See Sheet 326.
5) For Work on BRIDGE HAM-42-0235R (NB READING RD), See Sheet 333.
6) For Drainage Details, See Sheets 136A and 136B.
7) For Curb Transition Information, See Curb Transition at Retaining Walls and Bridge Abutments Detail on Sheet 21.
8) For Additional Impact Attenuator and Concrete Barrier Information, See Details on Sheets 19 and 24A.
9) For Curb Transition Using Combination Curb and Gutter, Type 2, As Per Plan, See Details on Sheet 24B.
10) For Barrier Transition Information, See Concrete Barrier Transition at Retaining Wall and Bridge Abutments Detail on Sheet 21.
11) Transition Concrete Barrier, Type D50 to Concrete Barrier, Type D Within 10' At Sta. 181+80NB.
12) * Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information, See Sheets 137A and 137B.

CALC. BY ap DATE 9-23-94 CHKD. BY PWP DATE 9-9-94	HAM-71-1.30/9.00	OHIO FHWA REGION 5	103/401

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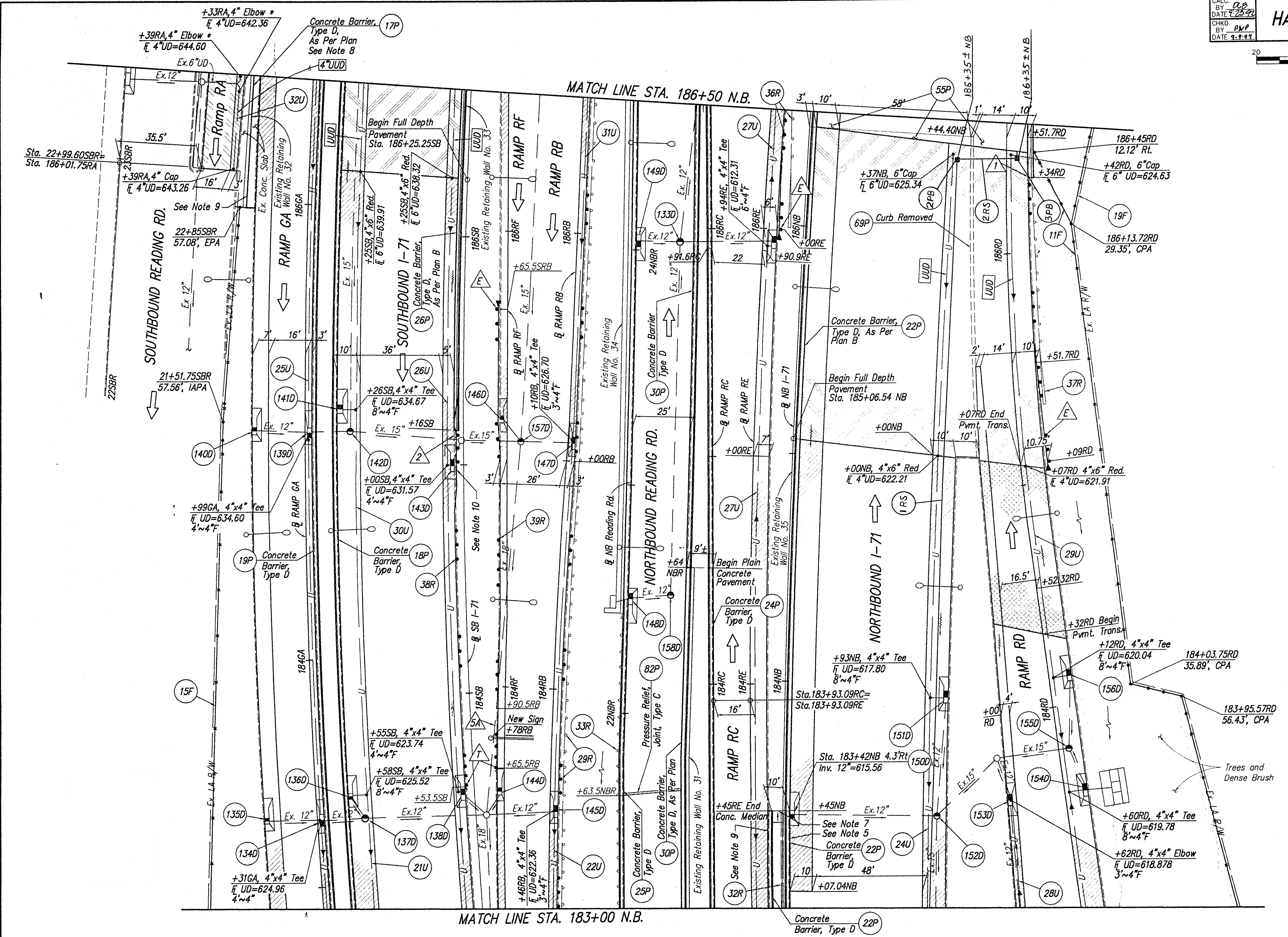

NOTES

1) For Typical Sections, See Sheets 6-13.
2) For Quantities, See Sheets 123-130, 271A
3) For Paving Legend, See Sheet 93.
4) For Drainage Details, See Sheets 136A and 136B.
5) Begin Barrier Transition Before the Catch Basin at Sta. 183+42 NB, Rt. For Further Information, See Detail on Sheet 19.
6) For Catch Basin Adjusted to Grade at the face of the Proposed Concrete Barrier, See Detail on Sheet 136A.
7) Transition 4" Plain Concrete Pavement from the top of the Concrete Barrier to the top of its Footing, Within 5'-0", For Additional Information, See Detail on Sheet 24A.
8) For Additional Information, See Sheet 23.
9) For Barrier Transition Information, See Concrete Barrier Transition at Retaining Wall and Bridge Abutments Detail on Sheet 21.
10) For Curb Transition Using Combination Curb and Gutter, Type 2, As Per Plan, See Details on Sheet 24B.
11) * Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information, See Sheets 137A and 137B.

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Sta. 183+00 N.B. to Sta. 186+50 N.B.

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DATE	4-23-92
CHKD. BY	PWP
DATE	9-9-94

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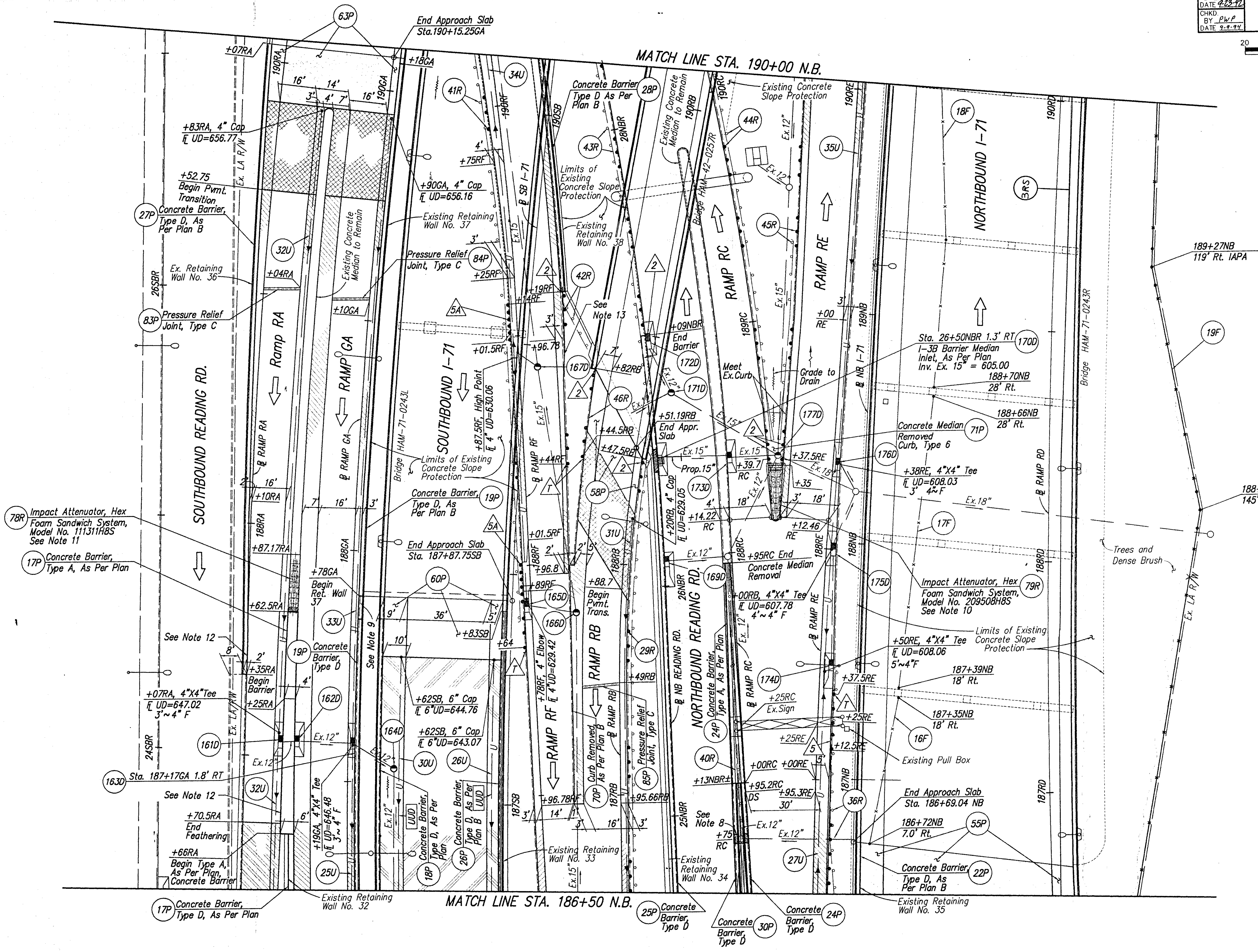
GRAPHIC SCALE IN FEET



NOTES

1) For Typical Sections, See Sheets 6-13.
2) For Quantities, See Sheets 123-130, 271A
3) For Paving Legend, See Sheet 93.
4) For Work on Bridge HAM-71-0243R (NB I-71), See Sheet 365.
5) For Work on Bridge HAM-42-0257R (RAMP RB), See Sheet 340.
6) For Work on Bridge HAM-71-0243L (SB I-71), See Sheet 354.
7) For Drainage Details, See Sheets 136A and 136B.
8) For Barrier Wall Detail at Manhole, See Sheet 18.
9) For Barrier Wall Transition at Retaining Walls, See Detail on Sheet 21.
10) For Additional Information, See Sheets 19 and 24C.
11) For Additional Information, See Sheets 19 and 24A.
12) For Barrier Transition Information See Concrete Barrier Transition at Retaining Walls and Bridge Abutments Detail on Sheet 21.
13) For Curb Transition Using Combination Curb and Gutter, Type 2, As Per Plan, See Details on Sheet 24B.

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Sta. 186+50 N.B. to Sta. 190+00 N.B.

NOTES

1) For Typical Sections, See Sheets 6-13.
2) For Quantities, See Sheets 123-130, 2^71A
3) For Paving Legend, See Sheet 93.
4) For Work on Bridge HAM-71-0243R (NB I-71), See Sheet 365.
5) For Work on Bridge HAM-42-0257R (RAMP RB), See Sheet 340.
6) For Work on Bridge HAM-71-0243L (SB I-71), See Sheet 354.
7) For Drainage Details, See Sheets 136A and 136B.

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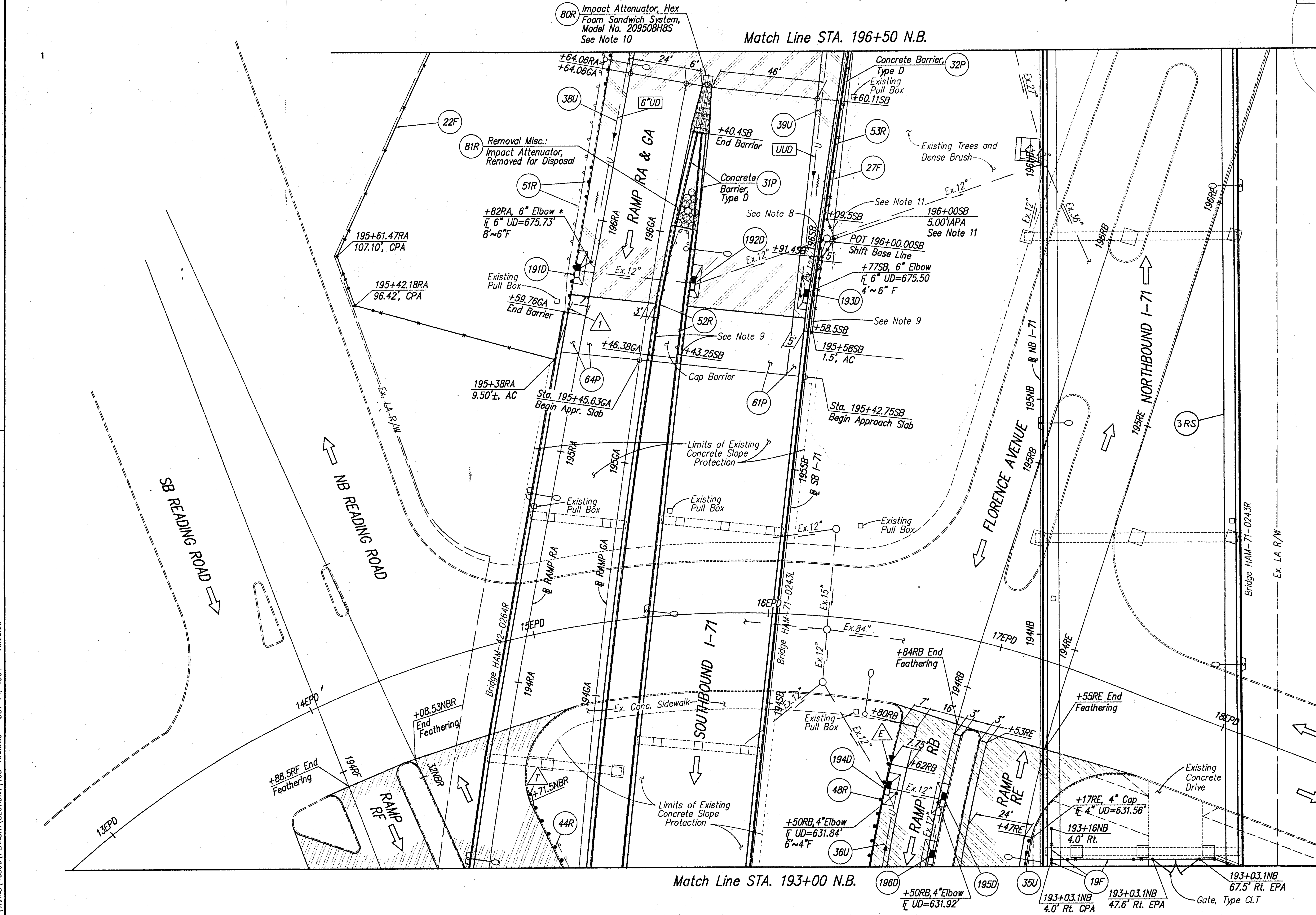
GRAPHIC SCALE IN FEET (20 0 20 40 60)



NOTES

1) For Typical Sections, See Sheets 6-13.
2) For Quantities, See Sheets 123-130, 271A
3) For Paving Legend, See Sheet 93.
4) For Work on Bridge HAM-71-0243R (NB I-71), See Sheet 365.
5) For Work on Bridge HAM-42-0264R (RAMP RA/GA), See Sheet 347.
6) For Work on Bridge HAM-71-0243L (SB I-71), See Sheet 354.
7) For Drainage Details, See Sheets 136A and 136B.
8) Construct Concrete Barrier, Type D Around Existing Manhole lid to Provide Easy Access.
9) For Barrier Transition Information, See Detail On Sheet 19.
10) For Concrete Barrier Information, See Detail on Sheet 20. For Impact Attenuator Information See General Notes and Detail on Sheet 19.
11) Construct Fence to Provide easy Access to Existing Manhole Using an IAPA as Shown.
12) * Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information, See Sheets 137A and 137B.

CALC. BY DCB DATE 4-25-90
CHKD. BY PWP DATE 10-17-94

GRAPHIC SCALE IN FEET

NOTES

1) For Typical Sections, See Sheets 6-13.
2) For Quantities, See Sheets 123-130, 271A
3) For Paving Legend, See Sheet 93.
4) For Work on Bridge HAM-71-0243R (NB I-71), See Sheet 365.
5) For Barrier Transition Information, See Detail On Sheet 19.
6) For Barrier Transition on a Retaining Wall, See Detail on Sheet 21.
7) For Curb Transition Using Combination Curb and Gutter, Type 2, As Per Plan, See Detail On Sheet 24B.
8) * Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information, See Sheets 137A and 137B.

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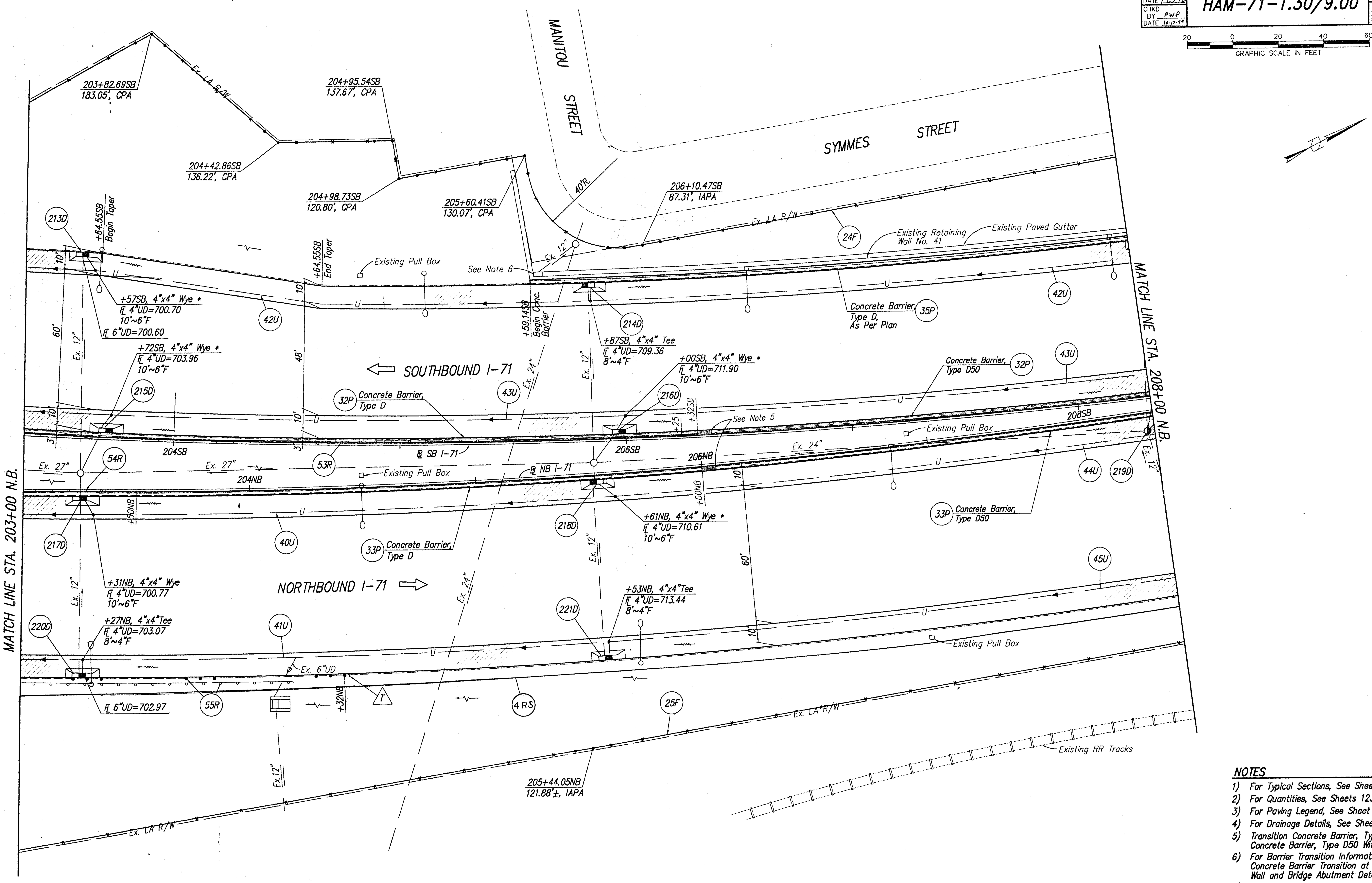
CALC. BY DLB DATE 9-23-94	HAM-71-1.30/9.00	OHIO FHWA REGION 5	108/401
CHKD. BY PWP DATE 10-17-94			



NOTES

1) For Typical Sections, See Sheets 6–13.
2) For Quantities, See Sheets 123–130, 271A
3) For Paving Legend, See Sheet 93.
4) For Drainage Details, See Sheets 136A and 136B.
5) Transition Concrete Barrier, Type D to Concrete Barrier, Type D50 Within 6 Feet.
6) For Barrier Transition Information, See Concrete Barrier Transition at Retaining Wall and Bridge Abutment Detail On Sheet 21.
7) * Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information, See Sheets 137A and 137B.

Sta. 203+00 N.B. to Sta. 208+00 N.B.

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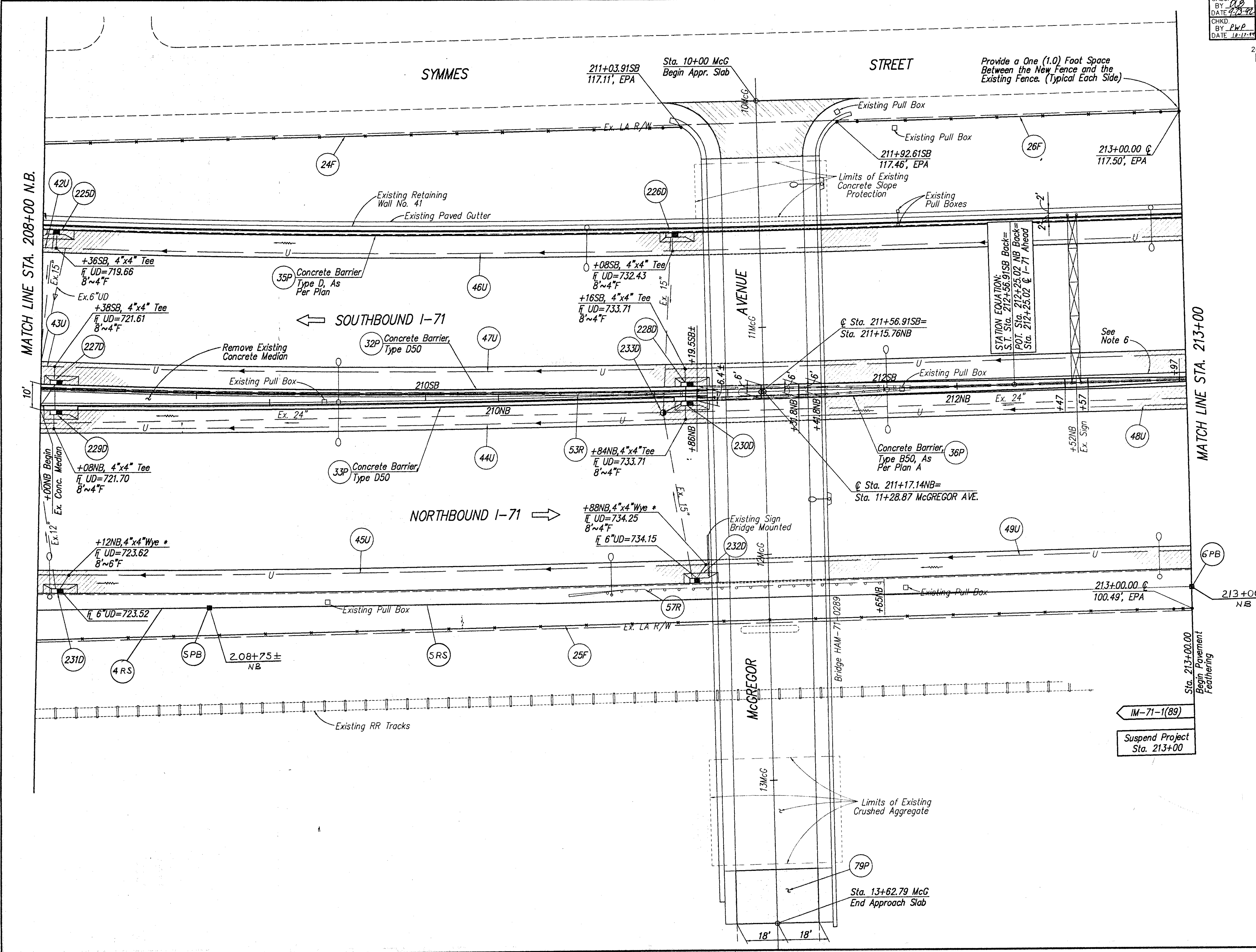
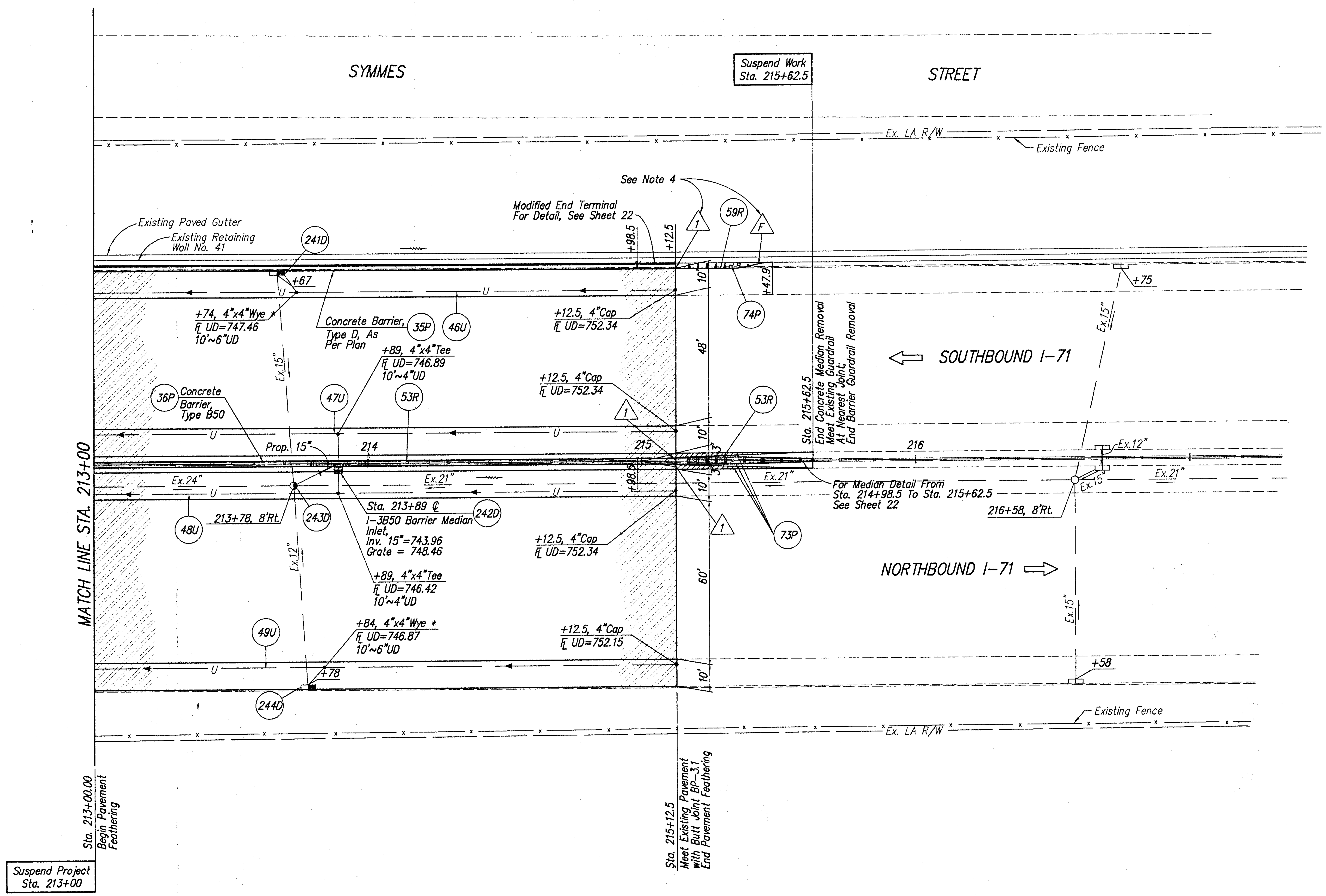


NOTES

1) For Typical Sections, See Sheets 6-13.
2) For Quantities, See Sheets 123-130, 271A
3) For Paving Legend, See Sheet 93.
4) For Work on Bridge HAM-71-0289 (McGREGOR AVE.), See Sheet 374.
5) For Drainage Details, See Sheets 136A and 136B.
6) For Barrier Wall Transition, See Standard Dwg. MC-9.4.
7) * Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information, See Sheets 137A and 137B.

20 0 20 40 60
GRAPHIC SCALE IN FEET



NOTES

1) For Typical Sections, See Sheets 6-13.
2) For Quantities, See Sheets 123-130, 271A
3) For Paving Legend, See Sheet 93.
4) For Bridge Terminal Assemblies, Type 1, As Per Plan and Type F, As Per Plan Details, See Sheet 22.
5) * Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information, See Sheets 137A and 137B.

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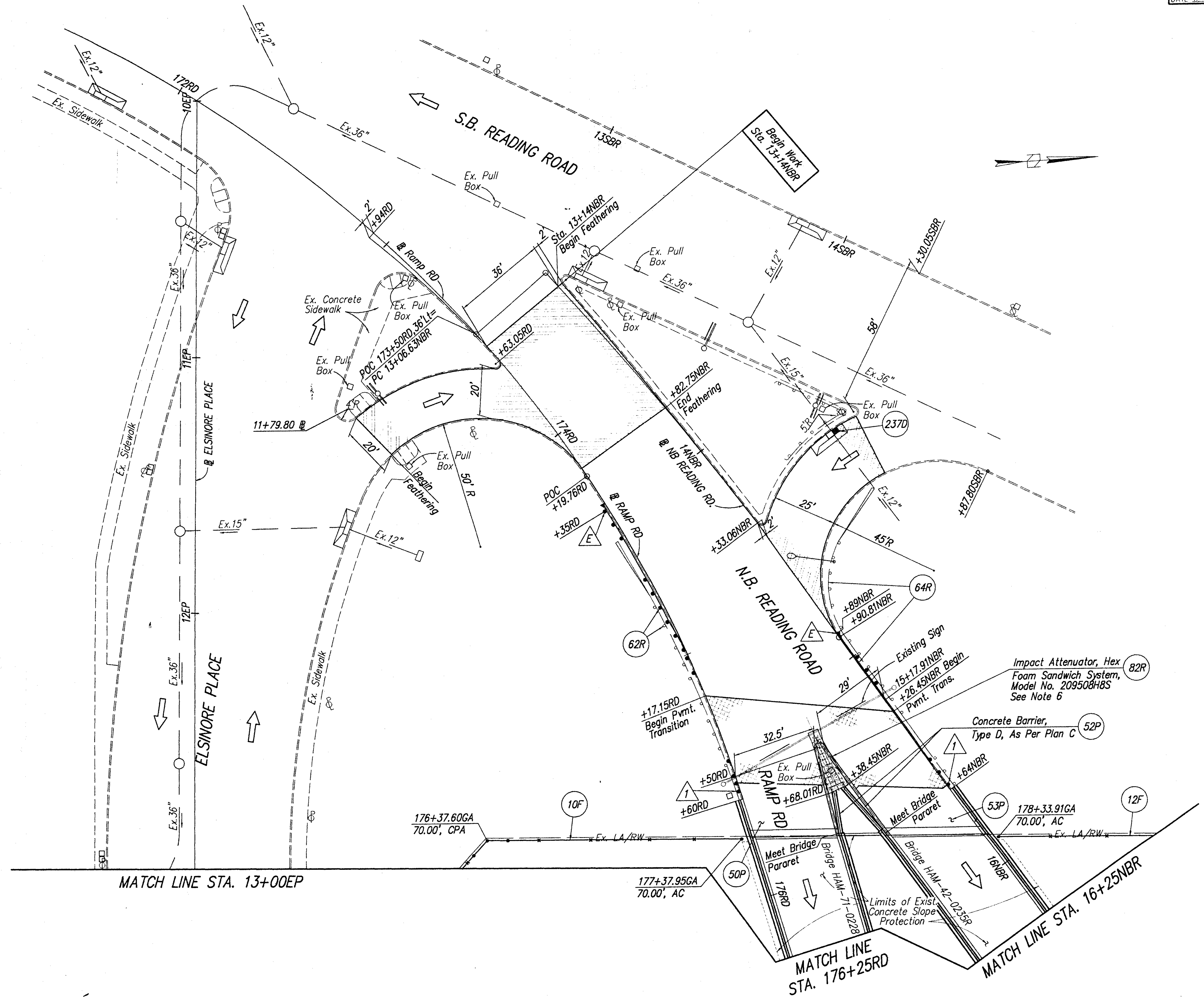
CALC. BY ___ DATE 9-13-94 / CHKD. BY PWP DATE 10-11-94	HAM-71-1.30/9.00	OHIO / FHWA REGION 5	111 / 401

20 0 20 40 60
GRAPHIC SCALE IN FEET



NOTES

1) For Typical Sections, See Sheets 6-13.
2) For Quantities, See Sheets 123-130, 271A
3) For Paving Legend, See Sheet 93.
4) For Work on Bridge HAM-71-0228 (RAMP RD), See Sheet 326.
5) For Work on Bridge HAM-42-0235R (READING ROAD), See Sheet 333.
6) For Additional Information, See Sheets 19 & 24C.

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READING ROAD AT ELSINORE PLACE

CALC BY DLB DATE 9-23-94
CHKD BY PWP DATE 10-12-94

NOTES

1) For Quantities, See Sheets 123-130, 271A
2) For Paving Legend, See Sheet 93.
3) For Work on Bridge HAM-71-0202 (RAMP GG), See Sheet 312.
4) For Work on Bridge HAM-71-0192W (RAMP GF), See Sheet 305.

RAMP GG and RAMP GF

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LEGEND

- Shoulder Reconstruction
- Shoulder Overlay
- Shoulder Widening
- Pavement Transition
- Pavement Feathering
- Full Depth Pavement Replacement
- Approach Slab Widening and/or Removal and Replacement

- E — Anchor Assembly, Type E
- T — Anchor Assembly, Type T
- 1 — Bridge Terminal Assembly, Type 1
- 2 — Bridge Terminal Assembly, Type 2
- 5A — Guardrail, Type 5A (See Miscellaneous Detail, Sheet 20)

- 8'~6"F — Item 603 - 6" Conduit, Type F 707.17 Non-Perforated, ASTM D-3034 SDR35, SS 931, or SS 944. The Callout Implies "8 Feet of 6" Conduit, Type F"
- UUD — Item 605 - 6" Unclassified Pipe Underdrain
- 4"UD — Item 605 - 4" Shallow Pipe Underdrain 707.15, As Per Plan
- 6"UD — Item 605 - 6" Shallow Pipe Underdrain

NOTE: All Proposed Guardrail Shall be Type 5 Unless Noted Otherwise.
Plan Sheet Shows Location Of Existing Lighting, For Proposed Lighting, See Lighting Drawings.

- IAPA - Intermediate Anchor Post Assembly
- EPA - End Post Assembly
- CPA - Corner Post Assembly
- AC - Abutment Connection
- DS - Denotes the Location of a Proposed Drainage Slot Constructed in the Concrete Barrier, For Further Information See Sheet 21.

PLAN DESCRIPTION	ODOT ITEM MASTER DESCRIPTION
I-3B50 Barrier Median Inlet, As Per Plan	Inlet, No. 3B50, As Per Plan

NOTE: See Sheet 136B for Additional Information and Details.
ODOT ITEM MASTER DESCRIPTION was used on the Estimated Quantities, General Summary and General Notes Sheets.
PLAN DESCRIPTION was used on the Plan Sheets.

50 0 50 100 150
GRAPHIC SCALE IN FEET

N

NOTES

1) For Typical Sections, See Sheets 14-17.
2) For Quantities, See Sheets 131-135, 271A
3) For Transition Details, See Sheets 18-19.
4) For Drainage Details, See Sheets 136A and 136B.
5) For Drainage Profiles, See Sheet 138-140.
6) • Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information, See Sheet 137A and 137B.
7) For Median Detail at Sta. 434+25 to Sta. 463+31, See Sheet 23.

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CALC. BY DLB DATE 4-23-92
CHKD BY PWP DATE 8-3-94

HAM-71-1.30/9.00

OHIO
FHWA REGION 5

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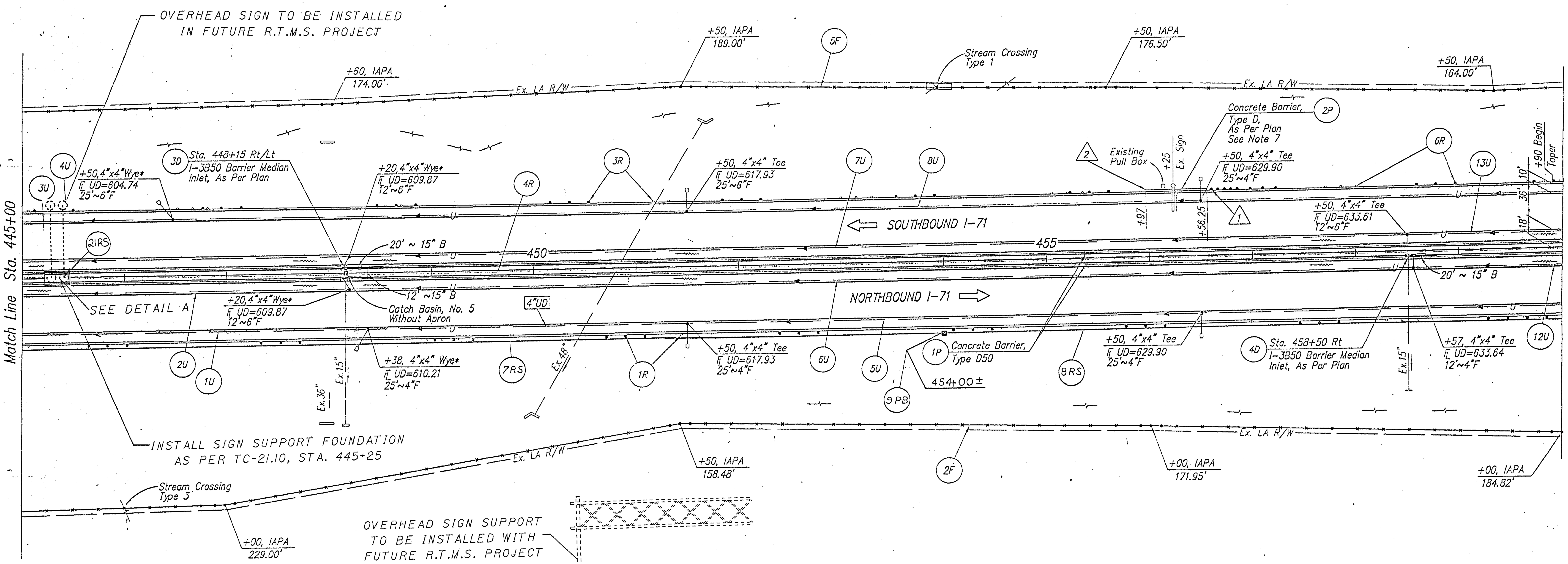

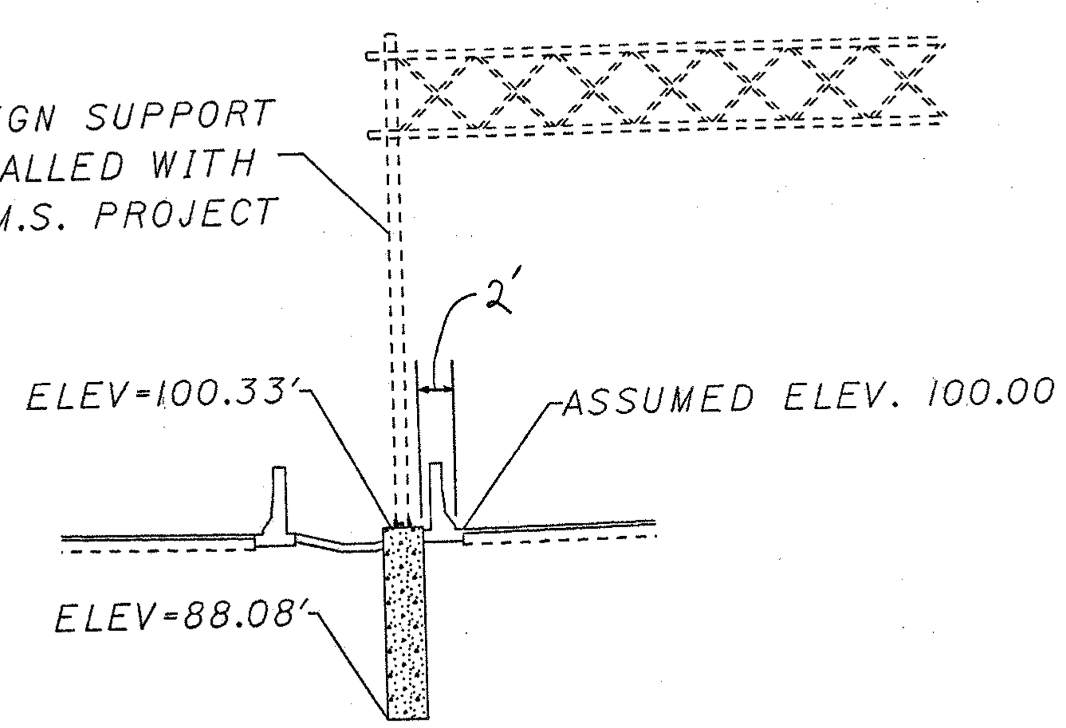

DETAIL A

NOTES

1) For Typical Sections, See Sheets 14-17.
2) For Quantities, See Sheets 131-135, 271A
3) For Paving Legend, See Sheet 113.
4) For Drainage Details, See Sheets 136A and 136B.
5) For Drainage Profiles, See Sheet 138-140.
6) * Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet, For Further Information, See Sheet 137A and 137B.
7) For Future Information, See Standard Drawing GR-8.

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CALC BY DLB DATE 9-23-92 / CHKD BY PWP DATE 8-2-94	HAM-71-1.30/9.00	OHIO FHWA REGION 5	115/401

50 0 50 100 150
GRAPHIC SCALE IN FEET

- (L) Sta. 470+08, 6"Cap ℄ 6"UD=633.25
- (M) Sta. 19+10A, 6"Cap ℄ 6"UD=630.89
- (N) Sta. 469+85, 6"Cap ℄ 6"UD=636.36
- (O) Sta. 0+34B, 4"Cap ℄ UD=642.83
- (P) Sta. 469+50, 6"Cap ℄ 6"UD=640.03
- (Q) Sta. 17+73A, 4"x6"Red ℄ 6"UD=627.19
- (R) Sta. 471+45, 6"x4"Red ℄ 6"UD=631.81
- (S) Sta. 471+23, 6"x4"Red ℄ 6"UD=635.10
- (T) Sta. 470+91, 6"x4"Red ℄ 6"UD=638.52
- (U) Sta. 471+06, 6"x4"Red ℄ 6"UD=635.32
- (V) Sta. 467+65, 6"Cap ℄ 6"UD=635.54

- (A) Sta. 466+52, 4"Elbow ℄ UD=634.40
- (B) Sta. 466+30, 4"Elbow ℄ UD=638.82
- (C) Sta. 466+18, 4"Elbow ℄ UD=638.84
- (D) Sta. 0+34B, 4"Elbow ℄ UD=642.83
- (E) Sta. 468+54, 4"Elbow ℄ UD=633.11
- (F) Sta. 466+32, 4"Elbow ℄ UD=636.17
- (G) Sta. 466+20, 4"Elbow ℄ UD=636.19
- (H) Sta. 0+44B, 4"Elbow ℄ UD=640.19
- (I) Sta. 467+90, 6"Elbow ℄ 6"UD=632.11 25'~6"F
- (J) Sta. 467+55, 6"Elbow ℄ 6"UD=635.27 12'~6"F & 25'~6"F
- (K) Sta. 1+59B, 6"Elbow ℄ 6"UD=639.43 25'~6"F

NOTES

1) For Typical Sections, See Sheets 14-17.
2) For Quantities, See Sheets 131-135, 271A
3) For Paving Legend, See Sheet 113.
4) For Work on Bridge HAM-71-0965 L/R (I-71), See Sheets 377 and 381.
5) For Drainage Details, See Sheets 136A and 136B.
6) For Drainage Profiles, See Sheet 138-140.
7) * Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet, For Further Information, See Sheet 137A and 137B.
8) 4"UUD Denotes ITEM 605 - 4" UNCLASSIFIED PIPE UNDERDRAIN.

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Sta. 460+00 to Sta. 475+00

CALC. BY DLB DATE 9-23-94 CHKD. BY PWP DATE 9-2-94	HAM-71-1.30/9.00	OHIO FHWA REGION 5	116/401

NOTES

1) For Typical Sections, See Sheets 14–17.
2) For Quantities, See Sheets 131–135, 271A
3) For Paving Legend, See Sheet 113.
4) For Work on Bridge HAM-71-0986 (RAMP A), See Sheet 385.
5) For Work on Bridge HAM-71-0987 (RAMP C), See Sheet 389.
6) For Drainage Details, See Sheets 136A and 136B.
7) For Pavement Transition Details, See Sheets 18–19.
8) For Drainage Profiles, See Sheets 138–140.
9) * Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information, See Sheet 137A and 137B.

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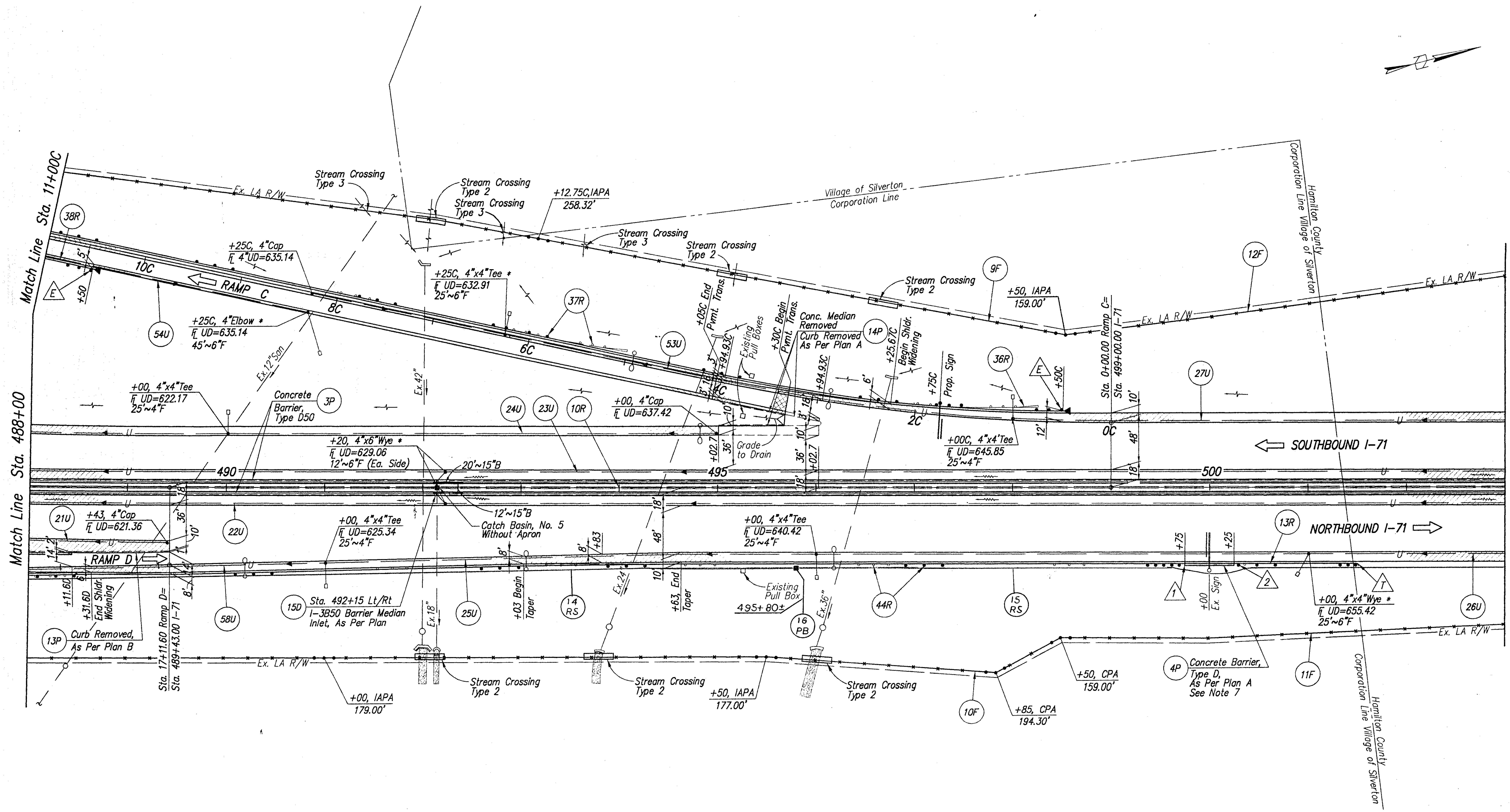

NOTES

1) For Typical Sections, See Sheets 14-17.
2) For Quantities, See Sheets 131-135, 271A
3) For Paving Legend, See Sheet 113.
4) For Drainage Details, See Sheets 136A and 136B.
5) For Drainage Profiles, See Sheet 138-140.
6) * Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information, See Sheet 137A and 137B.
7) For Further Information, See Standard Drawing GR-8.

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CHKD BY PWP DATE 8-2-94			

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GRAPHIC SCALE IN FEET

NOTES

1) For Typical Sections, See Sheets 14–17.
2) For Quantities, See Sheets 131–135, 271A
3) For Paving Legend, See Sheet 113.
4) For Drainage Details, See Sheets 136A and 136B.
5) For Drainage Profiles, See Sheets 138–140.
6) * Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information, See Sheet 137A and 137B.
7) For Further Information, See Standard Drawing GR-8.

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Sta. 503+00 to Sta. 518+00

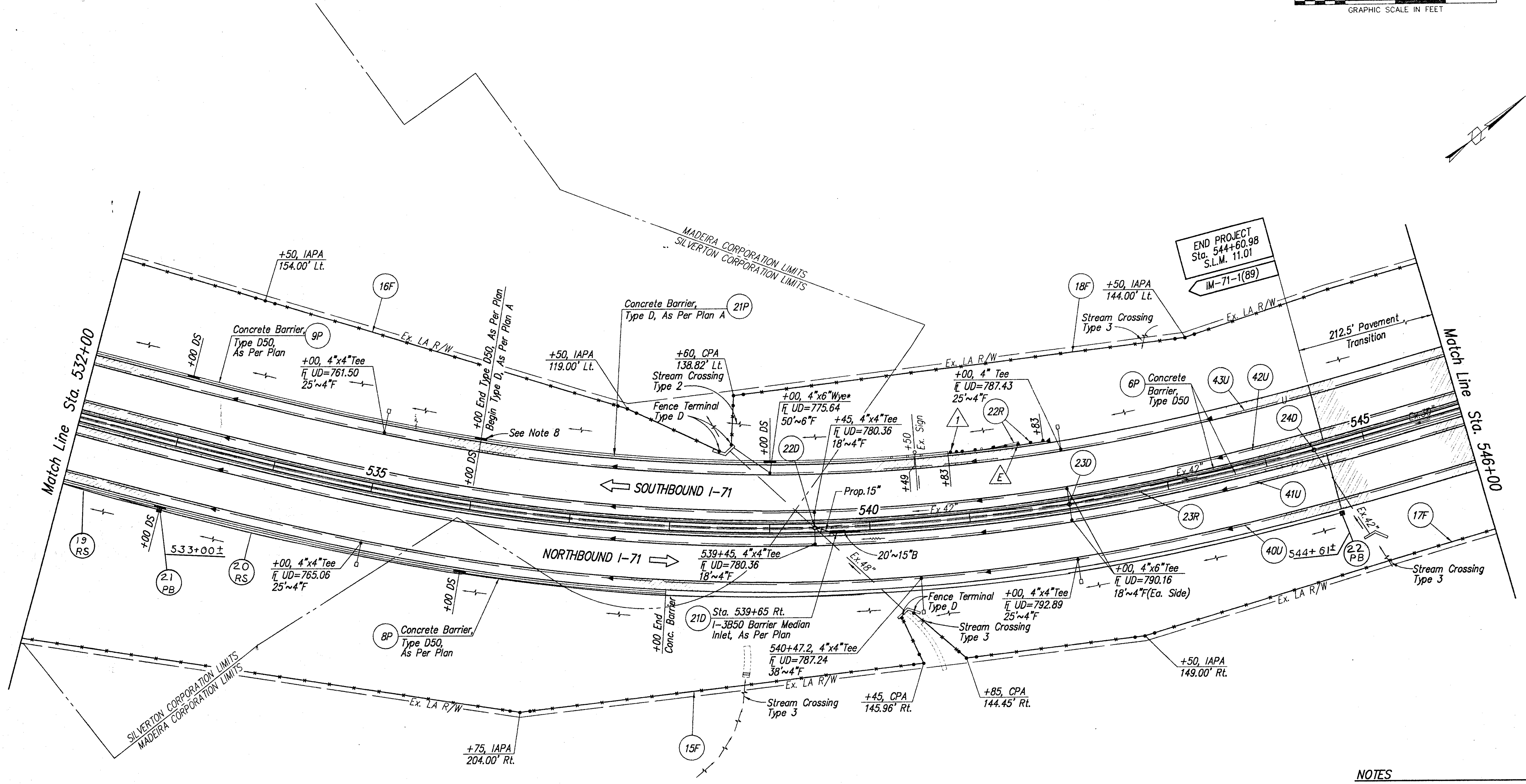
P	Sta. 524+04, 4"UD ℄ UD=718.19
Q	Sta. 524+02, 6"UD ℄ 6"UD=716.82
R	Sta. 524+32, 6"UD ℄ 6"UD=720.29
S	Sta. 524+41, 4"UD ℄ UD=721.66
T	Sta. 524+40, 6"UD ℄ 6"UD=720.69
U	Sta. 524+50, 4"UD ℄ UD=722.96
V	Sta. 524+77, 6"UD ℄ 6"UD=725.54
W	Sta. 524+79, 4"UD ℄ UD=726.91
X	Sta. 524+48, 6"UD ℄ 6"UD=721.59
Y	Sta. 523+75, 6"UD ℄ 6"UD=718.14

A	Sta. 519+08, 4"Caps ℄ UD=705.95 Sta. 519+08, 6"Elbow ℄ 6"UD= 703.05
B	Sta. 518+70, 4"x6"Red. ℄ 6"UD= 701.79
C	Sta. 518+20, 4"x6"Red. ℄ UD=700.35
D	Sta. 2+70F, 6"Cap ℄ 6"UD=695.65
E	Sta. 519+50, 6"Cap ℄ 6"UD=704.05
F	Sta. 520+00, 6"Cap ℄ 6"UD=705.72
G	Sta. 520+40, 6"Cap ℄ 6"UD=708.10
H	Sta. 523+56, 6"Elbow ℄ 6"UD=719.22 25'~6"F
I	Sta. 523+20, 6"Elbow ℄ 6"UD=715.84 20'~6"F
J	Sta. 523+12, 6"Elbow ℄ 6"UD=713.26
K	Sta. 522+70, 6"Elbow ℄ 6"UD=709.92
L	Sta. 6+00F, 4"Cap ℄ UD=708.40 10'~6"F
M	Sta. 6+08F, 4"Elbow * ℄ UD=708.00 10'~6"F
N	Sta. 6+25F, 4"Elbow * ℄ UD=709.65

NOTES

1) For Typical Sections, See Sheets 14-17.
2) For Quantities, See Sheets 131-135, 271A
3) For Paving Legend, See Sheet 113.
4) For Work on Bridge HAM-71-1063 R/L (I-71) See Sheets 394 and 398.
5) For Drainage Details, See Sheets 136A and 136B.
6) for Concrete Barrier Details, See Sheets 19 and 21.
7) For Drainage Profiles, See Sheets 138-140
8) "DS" Indicates The Location of Proposed Drainage Slots in Concrete Barrier, See Sheet 21 For Further Information.
9) Rotate Elbow Down and Connect 6"UD to Existing 18"ø Storm Conduit.
10) * Denotes a Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information See Sheet 137A and 137B.
11) Proposed Underdrain Outlets to Existing Ditches may need to be Omitted due to a lack of Positive Slope. Locations are to be Determined by the Field Engineer. Areas Affected: Sta. 526+50 to Sta. 546+73.48 Mainline Sta. 13+50F Ramp F, STEWART ROAD

CALC. BY DLB DATE 9-28-92 CHKD. BY PWP DATE 8-3-94	HAM-71-1.30/9.00	OHIO FHWA REGION 5	120/401



NOTES

1) For Typical Sections, See Sheets 14-17.
2) For Quantities, See Sheets 131-135, 27/A
3) For Paving Legend, See Sheet 113.
4) For Drainage Details, See Sheets 136A and 136B.
5) For Drainage Profiles, See Sheets 138-140.
6) "DS" Indicates the Location of a Proposed Drainage Slot in the Concrete Barrier, See Miscellaneous Detail Sheet 21.
7) * Denotes a Proposed Underdrain Outlet at an Existing Underdrain Outlet. For Further Information, See Sheets 137A and 137B.
8) Transition Concrete Barrier Type D50, As Per Plan to Concrete Barrier Type D, As Per Plan A, Within 20'.

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NOTES
1) For Typical Sections, See Sheets 14–17.
2) For Quantities, See Sheets 131–135, 271A
3) For Paving Legend, See Sheet 113.
4) For Drainage Details, See Sheets 136A and 136B.
5) For Concrete Barrier Detail, See Sheets 19 and 21.
6) For Drainage Profiles, See Sheets 138–140.

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Sta. 546+00 to Sta. 561+00

NOTES

1) For Typical Sections, See Sheets 14–17.
2) For Quantities, See Sheets 131–135, 271A
3) For Paving Legend, See Sheet 113.
4) For Drainage Details, See Sheets 136A and 136B.
5) For Concrete Barrier Details, See Sheets 19 and 21.
6) * Denotes Location of a Proposed Underdrain Outlet at an Existing Underdrain Outlet, For Further Information See Sheet 137A and 137B.
7) For Further Information Pertaining to Concrete Barrier, Type B, As Per Plan A, See Sheet 16.
8) Transition Concrete Barrier face to Accommodate the Proposed Guardrail, See Standard Drawing GR-8 and GR-3.1 For Further Information.
9) For Underdrain Detail, Ramps B and C, See Sheet 134A.

346 Orange D3-168

ROADWAY ESTIMATED QUANTITIES

CALC. BY [illegible] DATE [illegible]
CHKD. BY PWP DATE [illegible]

HAM-71-1.30/9.00

OHIO FHWA REGION 5

SHT. NO.	REF. NO.	SIDE	STATION	STATION	202 Guardrail Removed	202 Guardrail Removed, Barrier Design	202 Anchor Assembly Removed, Type A	202 Anchor Assembly Removed, Type T	202 Bridge Terminal Assembly Removed	606 Anchor Assembly Type E	606 Anchor Assembly Type T	606 Guardrail, Type 5	606 Guardrail, Type 5A	606 Bridge Terminal Assembly Type 1	606 Bridge Terminal Assembly Type 2	606 Bridge Terminal Assembly Type J
					Lin. Ft.	Lin. Ft.	Each	Each	Each	Each	Each	Lin. Ft.	Lin. Ft.	Each	Each	Each
			INTERSTATE 71													
94	1R	℄	133+58SB	134+95.5SB		87.5	2									
94,95	2R	℄	135+66NB	139+58.35NB		387.5										
94,95	3R	Lt.	137+68B	139+63B	200				2							
97,98	4R	℄	149+97	159+41		950										
97,98	5R	Rt.	150+17B	158+31	287.5	487.5	2		1							
97	6R	Lt.	149+75N	151+00N	200		1			1		75		1		
97,98	7R	Lt.	153+78	158+68	300	437.5			1		1	300			1	
98,99	8R	Rt.	156+85GD	165+68GD	800		1		1	1		50		1		
98–100	9R	Rt./Lt.	17+80GBN	168+54GD	700			2			3	1137.5				
98	10R	Rt.	158+40N	160+65N	175		1		1			312.5		1	1	
98,99	11R	Rt.	41+18.5GG	44+82GG	350		1					350		1	1	
98,99	12R	Lt.	40+81.5GG	43+61GG	300				1			275		1		1
99,100	13R	Lt.	161+90S	170+06SB	812.5				1							
99–101	14R	Lt.	162+47	173+72SB	462.5	637.5	1			1		50		1		
99,100	15R	Rt.	163+57	167+55NB	375			1	1		1	212.5			1	
95	16R	Rt.	137+74NB	139+49NB	100		1		1	1		50/25*		1		
100–101	17R	Lt./Rt.	168+84.5NB	182+97RC	1400			1								
–	18R	–	Not	Used												
100,101	19R	Lt.	168+50GA	174+35GA	312.5		1				1	575			1	
–	20R	–	Not	Used												
–	21R	–	Not	Used												
100–102	22R	Rt.	171+38GA	181+50GA	937.5		1	1			1	337.5			1	
101,102	23R	Lt.	171+75SB	173+75SB	187.5			1	1							
101–102	24R	Lt.	175+05SB	181+67.5SB	625		1	1								
100	25R	Rt.	170+76GD	172+30GD	137.5			1	1							
–	26R	–	Not	Used												
101	27R	Lt.	176+46GA	177+46GA	62.5		1		1	1		50		1		
–	28R	–	Not	Used												
102–104	29R	Rt.	179+38RB	188+47.5RB	900			1	1			787.5		1	1	
102	30R	Lt.	180+09RD	182+34RD	175			1	1		1	212.5			1	
102	31R	Rt.	179+48RD	180+73RD	100			1	1		1	112.5			1	
102,103	32R	℄	182+20NB	183+45NB		87.5	1	1								
102,103	33R	Lt.	20+55NBR	22+43NBR	175			1	1							
–	34R	–	Not	Used												
–	35R	–	Not	Used												
103,104	36R	Rt.	186+00RE	185+07RD	112.5		1	1		1	1	75				
103	37R	Rt.	185+09RD	186+34RD	75		1		1	1		75		1		
103	38R	Lt.	183+53.5SB	185+16SB							1	150			1	
103	39R	Lt.	183+65.5RF	185+65.5RF						1	1	125	12.5			
103,104	40R	Lt.	186+45RC	187+95RC		112.5	1	1								
104,105	41R	Lt.	187+64RF	193+12.5RF	487.5		1	1		1	1	425	62.5			
104	42R	Rt.	188+44RF	189+19RF	25						1	62.5			1	
104,105	43R	Lt.	27+09NBR	31+96.5NBR	475			2			1	362.5	62.5		1	
104–106	44R	Rt.	188+39.7RC	31+74NBR	475		1	1			1	562.5	12.5		1	
104,105	45R	Lt.	188+37.5RE	193+50RE	50		1	1			1	537.5			1	
104	46R	Lt.	188+44.5RB	188+82RB							1	25			1	
–	47R	–	Not	Used												
105,106	48R	Lt.	192+12RB	193+62RB						1		100		1		
–	49R	–	Not	Used												
–	50R	–	Not	Used												
TOTALS CARRIED TO NEXT COLUMN					11,775	3,187.5	21	20	18	10	18	7,387.5 / 25*	150	11	15	1

SHT. NO.	REF. NO.	SIDE	STATION	STATION	202 Guardrail Removed	202 Guardrail Removed, Barrier Design	202 Anchor Assembly Removed, Type A	202 Anchor Assembly Removed, Type T	202 Bridge Terminal Assembly Removed	202 Removal Misc.: Impact Attenuator, Removed For Disposal	606 Anchor Assembly Type E	606 Anchor Assembly Type T	606 Guardrail, Type 5	606 Guardrail, Type 5A	606 Bridge Terminal Assembly Type 1	606 Bridge Terminal Assembly Type 2	606 Bridge Terminal Assembly Type J	606 Bridge Terminal Assembly Type 1, As Per Plan	606 Bridge Terminal Assembly Type F, As Per Plan	606 Guardrail Barrier Design, Type 5	Special Impact Attenuator, Hex Foam Sandwich System, Model No. 11311H8S	Special Impact Attenuator, Hex Foam Sandwich System, Model No. 209508H8S	Special Impact Attenuator, Hex Foam Sandwich System, Model No. 209508H6S
					Lin. Ft.	Lin. Ft.	Each	Each	Each	Each	Each	Each	Lin. Ft.	Lin. Ft.	Each	Each	Each	Each	Each	Lin. Ft.	Ea.	Ea.	Ea.
			INTERSTATE 71																				
106,107	51R	Lt.	195+59.76GA	199+09.76RA	337.5		1		1		1		287.5	25	1								
106	52R	Rt.	195+47GA	195+43SB	112.5																		
106–110	53R	Rt./℄	195+58.5SB	215+50	1050	937.5			1						2					50			
107,108	54R	Rt.	201+37.5NB	203+50NB	162.5		1	1															
107,108	55R	Rt.	199+32NB	204+32NB	462.5			1	1			1	500			1							
–	56R	–	Not	Used																			
109	57R	Rt.	209+65NB	211+65NB	100		1	1															
–	58R	–	Not	Used																			
110	59R	Lt.	215+12.5	215+47.9									25					1	1				
–	60R	–	Not	Used																			
–	61R	–	Not	Used																			
111	62R	℄	174+35RD	175+60RD	87.5		1		1		1		75		1								
–	63R	–	Not	Used																			
111	64R	Lt.	15+64NBR	14+87.8SBR	112.5		1		1		1		25		1								
–	65R	–	Not	Used																			
–	66R	–	Not	Used																			
112	67R	Rt.	30+79GF	32+29GF	125		1		1		1		100		1								
112	68R	Lt.	29+97GF	32+22GF	200		1		1		1		87.5		1								
112	69R	Rt.	30+31.5GG	32+69GG	187.5		1	1	1		1		87.5			1							
112	70R	Lt.	31+25GG	32+75GG	112.5		1		1		1		137.5			1							
–	71R	–	Not	Used																			
–	72R	–	Not	Used																			
94	73R	℄	I-75SB Sta.135+11SB±																		1		
95	74R	Rt.	Ramp B Sta.139+05B							1													1
98	75R	Rt.	I-471NB Sta.157+60.22N																			1	
99	76R	Rt.	I-471SB Sta.161+92.67S							1 ⊕												1	
102	77R	Rt.	I-71NB/Ramp RC Sta.182+43.7NB																			1	
104	78R	Lt.	Ramp RA/GA Sta.187+62.5RA																		1		
104	79R	Rt.	Ramp RC/RE Sta.188+32RE																			1	
106	80R	Lt.	I-71SB/Ramp RA/GA Sta.196+40.4SB																			1	
106	81R	Rt.	Ramp GA Sta.196+05GA±							1													
111	82R	Rt.	NB Reading Rd./Ramp RD Sta.175+68.01RD																			1	
TOTALS THIS COLUMN					3,050	937.5	9	4	9	2	7	1	1,325	25	7	3	–	1	1	50	2	6	1
TOTALS CARRIED FROM PREVIOUS COLUMN					11,775	3,187.5	21	20	18	–	10	18	7,387.5 / 25*	150	11	15	1	–	–	–	–	–	–
TOTALS CARRIED TO GENERAL SUMMARY					14,825	4,125	30	24	27	2	17	19	8,712.5 / 25*	175	18	18	1	1	1	50	2	6	1

* 100% Federal CMAQ Funds

⊕ Impact Attenuator Removed for Storage

NOTE: For General Summarys, See Sheets 90-92.

GUARDRAIL AND ATTENUATOR – SECTION 1

ROADWAY ESTIMATED QUANTITIES

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ROADWAY ESTIMATED QUANTITIES

SHT. NO.	REF. NO.	SIDE	STATION	STATION	202 Fence Removed, As Per Plan	202 Gate Removed		607 Fence, Type CLT, As Per Plan	607 Fence, Type CLT	607 Gate, Type CLT		FOR INFORMATION ONLY: Intermediate Anchor Post Assembly (IAPA)	FOR INFORMATION ONLY: End Post Assembly (EPA)	FOR INFORMATION ONLY: Corner Post Assembly (CPA)	FOR INFORMATION ONLY: Abutment Connection (AC)
					Lin. Ft.	Each		Lin. Ft.	Lin. Ft.	Each		Each	Each	Each	Each
			INTERSTATE 71												
94	1F	Rt.	136+51B±	151+83.6A±	156	1			156	1			3	1	1
97–99	2F	Lt.	154+50.04C	12+00SE	885	1			885	1		1	3		
98,112,100	3F	Rt.	17+60GBN	27+04.37GBN	939				939			3	2		
99,100	4F	Rt.	12+00SE	170+75GD	886			513	373				1	3	
100	5F	Rt.	170+77GD	172+20GD	143				143				2		
–	6F	–	Not	Used											
–	7F	–	Not	Used											
100	8F	Rt.	29+39.79GB	171+64GA	66				66				2		
100,101	9F	Lt.	171+64GA	174+81GA	350				350				2	2	
101,111	10F	Lt.	175+67.85GA	177+37.95GA	167				190					2	2
101–103	11F	Rt.	179+05RD	186+45RD	790				762				1	4	
111,102	12F	Lt.	178+33.91GA	179+53GA	115	1			115	1			1		1
–	13F	–	Not	Used											
–	14F	–	Not	Used											
102,103	15F	Lt.	179+67GA	22+85SBR	643				643			2	2	1	
104	16F	Rt.	186+72NB	187+35NB	65										
104	17F	Rt.	187+39NB	188+66NB	130										
104,105	18F	Rt.	188+70NB	191+32NB	262										
105,106	19F	Rt.	186+13.72NB	193+16NB	182				789	1		4	3	1	
–	20F	–	Not	Used											
–	21F	–	Not	Used											
106,107	22F	Lt.	195+38RA	202+50.37SB	808				808			2		5	1
107	23F	Rt.	198+26NB±	202+72.01NB	560				560					4	1
107–109	24F	Lt.	202+50.37SB	211+03.91SB	903				903			2	1	5	
107–109	25F	Rt.	202+72.01NB	213+00.00	1068				1068			1	1		
109	26F	Lt.	211+92.61SB	213+00.00	140				140				2		
106–107	27F	Rt.	195+58.5SB	198+25NB					368			2		1	2
–	28F	–	Not	Used											
112	29F	Rt.	30+15.52GF	32+63.85GF	236				236						
112	30F	Lt.	32+55.78GF	33+05.61GG	59				59						
112	31F	Lt.	30+45.66GG	33+14.28GG	310				310						
–	32F	–	Not	Used											
–	33F	–	Not	Used											
												17	26	29	8
TOTALS CARRIED TO GENERAL SUMMARY					9863	3		513	9,863	4					

NOTE: For General Summarys, See Sheets 90–92

FENCING – SECTION 1

DRAINAGE ESTIMATED QUANTITIES

SHT. NO.	REF. NO.	SIDE	STATION	202	603				604					
				Catch Basin Removed	15" Conduit, Type B 706.01	12" Conduit, Type B 706.01			Inlet, No. 3B, As Per Plan	Inlet, No. 3B50	Catch Basin Adjusted To Grade	Manhole Adjusted To Grade	Inlet, No. 3B50, As Per Plan A	
				Each	Lin. Ft.	Lin. Ft.			Each	Each	Each	Each	Each	
			INTERSTATE 71											
94	1D	Lt.	133+84SB								1			
–	2D	–	Not Used											
94	3D	Lt.	134+17SB			10			1					
94	4D	Lt.	136+01NB									1		
94	5D	Lt.	136+14NB	1		8				1				
94	6D	Rt.	135+80SB	1		4				1				
94	7D	Rt.	136+12NB									1		
94	8D	Rt.	136+12NB								1			
94	9D	Rt.	137+70NB									1		
94	10D	Rt.	137+79NB								1			
–	11D	–	Not Used											
–	12D	–	Not Used											
95	13D	Lt.	139+11B								1			
–	14D	–	Not Used											
–	15D	–	Not Used											
–	16D	–	Not Used											
97	17D	Lt.	151+76								1			
97	18D	Lt.	154+35								1			
97	19D	Lt.	150+27			4							1	
97	20D	Median	151+66		10								1	
97	21D	Median	154+45		10					1				
97	22D	Rt.	150+27								1			
97	23D	Rt.	151+43								1			
97	24D	Rt.	151+77									1		
97	25D	Rt.	154+36									1		
97	26D	Rt.	154+19								1			
97	27D	Rt.	154+44									1		
–	28D	–	Not Used											
98	29D	Rt.	157+32N								1			
98	30D	Rt.	157+60GD									1		
98	31D	Lt.	157+04								1			
98	32D	Median	157+15			12				1				
98	33D	Rt.	157+02									1		
98	34D	Rt.	157+24								1			
98	35D	Rt.	157+40									1		
98	36D	Rt.	157+55N								1			
98	37D	Rt.	157+42GD								1			
–	38D	–	Not Used											
99	39D	Rt.	163+49GD									1		
99	40D	Lt.	163+49GD									1		
99	41D	Lt.	162+01S									1		
99	42D	Lt.	166+40								1			
99	43D	Median	162+75			4							1	
99	44D	Median	166+30			12				1				
99	45D	Rt.	161+50GD								1			
99	46D	Lt.	163+62GD								1			
99	47D	Rt.	163+60GD								1			
99	48D	Rt.	163+75GD								1			
99	49D	Lt.	165+87GD								1			
99	50D	Rt.	161+84GD									1		
TOTALS CARRIED TO NEXT COLUMN				2	20	54			1	5	20	13	3	

SHT. NO.	REF. NO.	SIDE	STATION	202	603				604							
				Catch Basin Removed	15" Conduit, Type B 706.01	12" Conduit, Type B 706.01	Slotted Drain: 15", Type B, 707.13	15" Conduit, Type B 707.13	Inlet, No. 3B50, As Per Plan	Inlet, No. 3B, As Per Plan	Inlet, No. 3B50	Catch Basin Adjusted To Grade	Manhole Adjusted To Grade	Catch Basin, No. 2-3	Inlet, No. 3B50, As Per Plan A	
				Each	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Each	Each	Each	Each	Each	Each	Each	
			INTERSTATE 71													
99	51D	Rt.	162+68GD										1			
99	52D	Lt.	162+00GD									1				
99	53D	Rt.	166+29									1				
99	54D	Rt.	166+38										1			
99	55D	Rt.	166+40										1			
99	56D	Rt.	162+15S										1			
99	57D	Lt.	161+85S									1				
100	58D	Rt.	168+07GA									1				
100	59D	Lt.	169+64GA									1				
100	60D	Rt.	171+82RB										1			
–	61D	–	Not Used													
100	62D	Lt.	168+62SB			4				1						
100	63D	Lt.	169+95SB									1				
100	64D	Lt.	170+97SB		4					1						
100	65D	Lt.	172+32RB									1				
100	66D	Rt.	172+33RB										1			
100	67D	Rt.	167+89NB			60			1							
100	68D	Lt.	168+64GD–170+20GD				166	10								
100	69D	Rt.	168+50NB			14			1							
100	70D	Rt.	168+63NB										1			
100	71D	Lt.	168+62SB			8			1							
100	72D	Rt.	169+10NB			8			1							
100	73D	Rt.	169+96NB										1			
100	74D	Rt.	170+93NB			4			1							
100	75D	Lt.	171+10SB										1			
100	76D	Lt.	170+97SB			4			1							
100	77D	Rt.	172+62RB									1				
100	78D	Rt.	168+50NB									1				
100	79D	Rt.	168+62GD									1				
100	80D	Lt.	168+67GD									1				
100	81D	Rt.	168+66NB										1			
100	82D	Rt.	170+00GD										1			
100	83D	Rt.	171+43GD									1				
–	84D	–	Not Used													
100	85D	Lt.	170+86NB										1			
100	86D	Rt.	170+93SB		28									1		
–	87D	–	Not Used													
101	88D	Lt.	178+35GA										1			
101	89D	Lt.	173+99									1				
101	90D	Lt.	174+90GA			4				1						
101	91D	Lt.	176+26GA									1				
101	92D	Lt.	178+00GA									1				
101	93D	Rt.	174+00GA										1			
101	94D	Rt.	174+84GA										1			
101	95D	Rt.	175+94GA										1			
101	96D	Lt.	176+04SB									1				
101	97D	Lt.	176+17SB										1			
101	98D	Lt.	178+40SB									1				
101	99D	Lt.	178+60SB										1			
101	100D	Rt.	174+75SB										1			
TOTALS THIS COLUMN				–	32	106	166	10	6	3	–	17	19	1	–	
TOTALS CARRIED FROM PREVIOUS COLUMN				2	20	54	–	–	–	1	5	20	13	–	3	
TOTALS CARRIED TO GENERAL SUMMARY				2	52	160	166	10	6	4	5	37	32	1	3	

NOTE: For General Summarys, See Sheets 90–92.

DRAINAGE ESTIMATED QUANTITIES

SHT. NO.	REF. NO.	SIDE	STATION	202			604			603					
				Catch Basin Removed			Catch Basin Adjusted To Grade	Manhole Adjusted To Grade		15' Conduit, Type B 706.01					
				Each			Each	Each		Lin. Ft.					
			INTERSTATE 71												
101	101D	Rt.	176+01SB					1							
101	102D	Rt.	176+12SB				1								
101	103D	Rt.	176+98SB					1							
101	104D	Rt.	176+55SB					1							
101	105D	Rt.	176+67SB				1								
101	106D	Rt.	174+08NB				1								
101	107D	Lt.	174+18NB					1							
101	108D	Lt.	177+04NB				1			4					
101	109D	Rt.	174+20NB				1								
101	110D	Rt.	177+12NB				1								
101	111D	Rt.	178+77NB				1								
–	112D	–	Not Used												
–	113D	–	Not Used												
–	114D	–	Not Used												
102	115D	Lt.	181+30GA				1								
102	116D	Lt.	179+01GA					1							
102	117D	Rt.	179+17GA				1								
102	118D	Lt.	181+37SB				1								
102	119D	Rt.	181+30GA				1								
102	120D	Lt.	181+55SB					1							
102	121D	Rt.	180+50SB					1							
102	122D	Rt.	181+46RB					1							
102	123D	Rt.	181+65RB				1								
102	124D	Lt.	179+20RC				1								
102	125D	Lt.	181+55SB					1							
102	126D	Rt.	182+12RC				1								
102	127D	Rt.	181+66NB				1								
102	128D	Rt.	181+57NB					1							
102	129D	Lt.	181+48RD				1								
102	130D	Lt.	180+59SB	1											
–	131D	–	Not Used												
–	132D	–	Not Used												
103	133D	Rt.	24+04NBR					1							
103	134D	Rt.	183+28GA				1								
103	135D	Lt.	183+30GA				1								
103	136D	Lt.	183+58SB				1								
103	137D	Lt.	183+37SB					1							
103	138D	Lt.	183+55SB				1								
103	139D	Rt.	185+00GA				1								
103	140D	Lt.	185+00GA				1								
103	141D	Lt.	185+25SB				1								
103	142D	Lt.	185+14SB					1							
103	143D	Lt.	185+00SB				1								
103	144D	Lt.	183+54RF				1								
103	145D	Rt.	183+45RB				1								
103	146D	Lt.	185+17RF				1								
103	147D	Rt.	185+07RB				1								
103	148D	Rt.	22+50NBR				1								
103	149D	Rt.	24+04NBR				1								
103	150D	Rt.	183+42NB				1								
TOTALS CARRIED TO NEXT COLUMN				1			31	13		4					

SHT. NO.	REF. NO.	SIDE	STATION	202		604				603					
				Catch Basin Removed		Inlet, No. 3B, As Per Plan	Catch Basin Adjusted To Grade	Manhole Adjusted To Grade		15" Conduit, Type B 706.01					
				Each		Each	Each	Each		Lin. Ft.					
			INTERSTATE 71												
103	151D	Rt.	183+93NB				1								
103	152D	Rt.	183+43NB					1							
103	153D	Lt.	183+61RD				1								
103	154D	Rt.	183+60RD				1								
103	155D	Rt.	183+81RD					1							
103	156D	Rt.	184+12RD				1								
103	157D	Rt.	185+07RF					1							
103	158D	Rt.	22+52NBR					1							
–	159D	–	Not Used												
–	160D	–	Not Used												
104	161D	Rt.	187+07RA				1								
104	162D	Lt.	187+17GA				1								
104	163D	Rt.	187+17GA				1								
104	164D	Lt.	187+15SB					1							
104	165D	Rt.	187+84RF				1								
104	166D	Rt.	187+80RF					1							
104	167D	Rt.	188+86RF					1							
–	168D	–	Not Used												
104	169D	Rt.	26+05NBR				1								
104	170D	Rt.	26+50NBR			1				4					
104	171D	Rt.	26+82NBR					1							
104	172D	Rt.	27+07NBR				1								
104	173D	Lt.	188+41RC				1								
104	174D	Rt.	187+50RE				1								
104	175D	Rt.	188+00RE				1								
104	176D	Rt.	188+38RE				1								
104	177D	Lt.	188+39.5RE					1							
–	178D	–	Not Used												
–	179D	–	Not Used												
105	180D	Rt.	190+66RF					1							
105	181D	Lt.	190+75RF				1								
105	182D	Lt.	191+25RF				1								
105	183D	Rt.	28+88NBR				1								
105	184D	Rt.	31+23NBR				1								
–	185D	–	Not Used												
–	186D	–	Not Used												
105	187D	Rt.	190+95RE				1								
–	188D	–	Not Used												
–	189D	–	Not Used												
–	190D	–	Not Used												
106	191D	Lt.	195+77RA				1								
106	192D	Lt.	195+74SB				1								
106	193D	Lt.	195+74SB				1								
106	194D	Lt.	193+50RB				1								
106	195D	Rt.	193+50RB				1								
106	196D	Rt.	193+25RB				1								
–	197D	–	Not Used												
–	198D	–	Not Used												
–	199D	–	Not Used												
TOTALS THIS COLUMN				–		1	25	10		4					
TOTALS CARRIED FROM PREVIOUS COLUMN				1		–	31	13		4					
TOTALS CARRIED TO GENERAL SUMMARY				1		1	56	23		8					

NOTE: For General Summarys, See Sheets 90-92.

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DRAINAGE ESTIMATED QUANTITIES

SHT. NO.	REF. NO.	SIDE	STATION	604 Inlet, No. 3B50	604 Catch Basin Adjusted To Grade	604 Manhole Adjusted To Grade	603 15" Conduit, Type B 706.01
				Each	Each	Each	Lin. Ft.
			INTERSTATE 71				
107	200D	Lt.	197+73RA			1	
107	201D	Lt.	198+51RA		1		
107	202D	Lt.	201+58SB		1		
107	203D	Lt.	198+98SB		1		
107	204D	Lt.	201+66SB		1		
107	205D	Rt.	198+59NB		1		
107	206D	Rt.	201+21NB		1		
107	207D	Rt.	198+59NB		1		
107	208D	Rt.	201+21NB		1		
–	209D	–	Not Used				
–	210D	–	Not Used				
–	211D	–	Not Used				
–	212D	–	Not Used				
108	213D	Lt.	203+55SB		1		
108	214D	Lt.	205+84SB		1		
108	215D	Lt.	203+67SB		1		
108	216D	Lt.	205+95SB		1		
108	217D	Rt.	203+25NB		1		
108	218D	Rt.	205+52NB		1		
108	219D	Rt.	207+95NB			1	
108	220D	Rt.	203+25NB		1		
108	221D	Rt.	205+52NB		1		
–	222D	–	Not Used				
–	223D	–	Not Used				
–	224D	–	Not Used				
109	225D	Lt.	208+35SB		1		
109	226D	Lt.	211+14SB		1		
109	227D	Lt.	208+38SB		1		
109	228D	Lt.	211+14SB		1		
109	229D	Rt.	208+06NB		1		
109	230D	Rt.	210+81NB		1		
109	231D	Rt.	208+08NB		1		
109	232D	Rt.	210+85NB		1		
109	233D	Rt.	210+71NB			1	
–	234D	–	Not Used				
–	235D	–	Not Used				
–	236D	–	Not Used				
111	237D	Lt.	14+24NBR		1		
–	238D	–	Not Used				
–	239D	–	Not Used				
–	240D	–	Not Used				
110	241D	Lt.	213+67		1		
110	242D	Median	213+89	1			4
110	243D	Rt.	213+78			1	
110	244D	Rt.	213+78		1		
–	245D	–	Not Used				
–	246D	–	Not Used				
TOTALS CARRIED TO GENERAL SUMMARY				1	27	4	4

NOTE: For General Summarys, See Sheets 90-92.

UNDERDRAIN ESTIMATED QUANTITIES

SHT. NO.	REF. NO.	SIDE	STATION	STATION	FOR INFORMATION ONLY														603		605				
					4"-90° Elbow	–	4"x6" Reducer	6"x6" Tee	4"x4" Tee	4"x6"-45° Wye	6"-90° Elbow	6"-45° Elbow	–	4"-45° Elbow	4"x4"-45° Wye	6"x6"-45° Wye	End Cap (See Note)	–	4"or 6" Conduit, Type F, 707.17 Non-Perforated, ASTM D-3034 SDR35, SS931 or SS944 4"	6"	6" Unclassified Pipe Underdrain	Shallow Underdrain, As Per Plan	6" Shallow Pipe Underdrain	4" Unclassified Pipe Underdrain	
					Ea.	–	Ea.	Ea.	Ea.	Ea.	Ea.	Ea.	–	Ea.	Ea.	Ea.	Ea.	–	Lin. Ft	Lin. Ft	Lin. Ft	Lin. Ft	Lin. Ft	Lin. Ft	
			INTERSTATE 71																						
94,95	1U	Lt.	133+84SB	137+43SB							1						1			6	365				
94,95	2U	Rt.	133+72SB	137+40SB				2									2			8	369				
94,95	3U	Rt.	136+12NB	139+29NB				1			1						1			13	317				
94	4U	Lt.	133+55SB	134+95SB								2					2			6	140				
95	5U	Lt.	138+78B	139+32B					1								2			4		54			
97,98	6U	Lt.	151+76	158+56	1		1			1		1		1	1	2	1		6	24	158	522			
97,98	7U	Lt.	150+29	159+25			2		3		1			2			1		24	30	158	609	132		
97,98	8U	Rt.	151+80	159+46			1		2					1			1		20		158	608			
97,98	9U	Rt.	150+29B	160+15			2		2			3		2		1	1		16	16	158	699	132		
98	10U	Rt.	158+34.5N	160+40N			1			1				1			1				140	70			
99,100	11U	Lt.	162+01S	168+61SB			1			1		2		3	1	1			8			561	99		
99,100	12U	Rt.	162+81	168+50NB			1		2			1		2					16	12		434	135		
99,100	13U	Rt.	161+52GD	168+63GD	1				2										24			711			
98	14U	Rt.	157+60GD	159+50GD						1				3			1			6		190			
98–100	15U	Lt.	158+44GD	169+50GD					4	1				2			1		12	34		1106			
100–102	16U	Lt.	169+65GA	178+95GA					3	3				3			1		18	3		940			
100,101	17U	Lt.	168+61SB	178+63SB					2	4				4	2				16	16		1102			
100,101	18U	Rt.	172+58RB	178+67SB	1				1										7			609			
100,101	19U	Rt.	168+50NB	177+06NB					3										13	8		856			
100,101	20U	Rt.	168+63GD	178+77NB					3	2				2	2				24	14		1012			
101–103	21U	Lt.	178+41SB	183+58SB					1	2				2	2				8	16		495			
101–103	22U	Rt.	178+67SB	183+46RB					2										7			480			
101,102	23U	Lt.	177+06NB	182+00RC					2								1		6			494			
101–103	24U	Rt.	178+77NB	186+37NB			1		3	1				1	1		1		24	6	137	623			
102–104	25U	Rt.	179+17GA	187+19GA					4					1			1		14			802			
102–104	26U	Lt.	181+53SB	187+62SB			1		2					1			1		8		137	472			
102–104	27U	Rt.	182+13RE	187+50RE	1				1										14			537			
102,103	28U	Lt.	181+59RD	183+62RD	1												1		3			203			
102,103	29U	Rt.	182+25RD	186+42RD			1		2								2		16		135	282			
103,104	30U	Lt.	183+58SB	187+62SB			1		2								1		12		137	167			
103,104	31U	Rt.	183+46RB	188+20RB					2								1		6			474			
103,104	32U	Rt.	186+02RA	189+83RA						2				2			2		3			344		34	
104	33U	Rt.	187+17GA	189+90GA					1								1		3			273			
104,105	34U	Lt.	187+78RF	192+90RF	1				2								1		10			512			
104–106	35U	Rt.	187+50RE	193+17RE					4								1		15			567			
105,106	36U	Lt.	192+28RB	193+50RB	1												1		6			121			
105,106	37U	Rt.	192+28RB	193+25RB	1												1		3			97			
106,107	38U	Lt.	195+78RA	201+61SB			1		1			1				1			8	8		456	127		
106,107	39U	Lt.	195+77SB	201+71SB			1		1		1								8	4	128	466			
107,108	40U	Rt.	198+62NB	205+61NB			1		3	2		1		2	4					30		571	128		
107,108	41U	Rt.	198+62NB	205+53NB			1		2		1			2					16	8		563	128		
107–109	42U	Lt.	201+61SB	208+36SB					1	2				2	2				8	20		679			
107–109	43U	Lt.	201+71SB	208+38SB						3				3	3					30		673			
108,109	44U	Rt.	205+61NB	210+84NB					1	1				1	1				8	10		531			
108,109	45U	Rt.	205+53NB	210+92NB					1	1				1	1				8	10		531			
109,110	46U	Lt.	208+36SB	215+00SB					2	1				1	1		1		16	10		664			
109,110	47U	Lt.	208+36SB	215+00SB					3								1		29			662			
109,110	48U	Rt.	510+84NB	215+00NB					3								1		27			416			
109,110	49U	Rt.	510+92NB	215+00NB						3				3	3		1			30		416			
					8	–	17	3	74	32	5	11	–	48	24	5	36	–							
TOTALS CARRIED TO GENERAL SUMMARY																			490	382	2,637	23,654	881	34	

NOTE: For End Cap Size, See Plan Sheets.
For General Summarys, See Sheets 90–92.

					202		203	301		304		408	446		452	601		611	622											659			202	518	630		609
SHT. NO.	REF. NO.	SIDE	STATION	STATION	Concrete Median Removed	Curb Removed	Excavation Not Including Embankment Construction	3" Bituminous Aggregate Base, AC-20	Bituminous Aggregate Base, AC-20, Varable Depth	6" Aggregate Base, As Per Plan	Aggregate Base, As Per Plan (Var Depth)	Bituminous Prime Coat	1 1/4" Asphalt Concrete Surface Coarse, Type 1, AC-20	1 1/2" Asphalt Concrete Surface Coarse, Type 1, AC-20	4" Plain Concrete Pavement	Concrete Slope Protection	Riprap Using 6" Reinforced Concrete Slab, As Per Plan	Reinforced Concrete Approach Slab (T=17"), As Per Plan	Concrete Barrier, Type D50	Concrete Barrier, Type B50, As Per Plan	Concrete Barrier, Type B50	Concrete Barrier, Type D	Concrete Barrier, Type B50, As Per Plan A	Concrete Barrier, Type B50, As Per Plan B	Concrete Barrier, Type A, As Per Plan	Concrete Barrier, Type B, As Per Plan	Concrete Barrier, Type D, As Per Plan	Concrete Barrier, Type D, As Per Plan B	Concrete Barrier, Type D, As Per Plan D	Seeding and Mulching	Commercial Fertilizer	Water	Approach Slab Removed	Porus Backfill, 518.02	Barrier Wall Assembly, Type TC-21.41, Design 2, As Per Plan	Barrier Wall Assembly, Type TC-21.41, Design 1, As Per Plan	Combination Curb and Gutter, Type 2, As Per Plan
					Sq. Yd.	Lin. Ft.	Cu. Yd.	Cu. Yd.	Cu. Yd.	Cu.	Yd.	Gal.	Cu. Yd	Cu. Yd	Sq.Yd.	Sq.Yd.	Sq.Yd.	Sq. Yd.	Lin. Ft.	Lin.Ft.	Lin. Ft.	Lin. Ft.	Lin.Ft.	Lin.Ft.	Lin.Ft.	Lin.Ft.	Lin. Ft.	Lin. Ft.	Lin.Ft.	Sq.Yd.	Ton	M.Gal.	Sq.Yd.	Cu.Yd.	Each	Each	Lin.Ft.
			INTERSTATE 71																																		
94,95	1P	Lt.	133+29SB	137+63SB	113	321									125							318.5						113									
94	2P	Median	133+56SB	134+95SB	104		4.8	9.6		9.6		14.4		2	24							110			26.9									18			
94,95	3P	Median	135+65NB	139+58.35NB	333			9.8			11.3	29.3	4.1								310.85			25													
94,95	4P	Lt.	137+68BB	139+63NB		195	9															195								65	0.006	0.07					
–	5P	–	Not Used																																		
97,98	6P	Median	149+96.72	159+40.79	629			12.1			14	36.3	5.0								782.57			50													
97,98	7P	Right	150+17B	158+35NB	377	1290																345			228	232				101.3	0.009	0.11					
97,98	8P	Left	150+01.75	158+67.5SB	244	879	7		2.9	2.9		4.4		0.6												427		426.25									
98–100	9P	Right	158+75GD	170+76GD	230	1236	21.2				15.5					58						685.5					548			122	0.011	0.13					35
97	10P	Left	151+00N	153+49.5N		284.5	26				0.4											249.5								94.8	0.009	0.10					35
99	11P	Right	163+54	165+30		176																176								59	0.005	0.06					
99–100	12P	Median	162+46.24	169+25NB	495			10.8				16.2	2.3		52				187.5	47.36	428.9			25													
99–100	13P	Left	161+91S	171+75SB	46.7	984																778.5					148			272	0.024	0.29				1	
100,101	14P	Med Lt	169+25NB	173+60NB		470					0.4						554		415											140	0.013	0.151					35
100–102	15P	Med Rt	169+25NB	182+07.04NB		1282.04													1249.54			15								281	0.025	0.304					
100–102	16P	Right	170+76GD	181+28NB	175	1049.07	28.8				28.8											151.5					892.57			51	0.005	0.055					
103–104	17P	Right	185+86RA	187+62.5RA	76.1	80																			96.5		80										
100–104	18P	Left	171+75SB	187+87.75SB	199	1612.75										145						1575.25								663	0.06	0.72					
101–104	19P	Right	174+88GA	190+13GA		1325					0.4											1290						235									35
101	20P	Left	174+35GA	176+46GA	40	281	7.7				8.5																191										35
102	21P	Right	179+38RB	180+85RB		182					0.4											147								60.7	0.005	0.065					35
102–104	22P	Left	182+25NB	186+69.04NB	107										33.3							101.3					324.04										
102,103	23P	Left	182+25NB	183+45NB																		101.3															
102–104	24P	Left	182+06.63RC	187+95RC	248	248.4	6.9								76.2							486.9			95					83	0.007	0.089			1		
102–104	25P	Left	20+48NBR	27+09NBR	20	661	5.7									8.8						641								134	0.012	0.145					
103,104	26P	Right	185+16SB	187+83SB		35					0.4																	267									35
104	27P	Left	187+35RA	190+07RA																								272									
104,105	28P	Right	189+19RF	193+35RF		35					0.4																	416									35
105	29P	Right	191+96.25RB	193+18RB																								121.75									
102–104	30P	Right	20+40.1NBR	25+13NBR±		249																245							223.9								
106	31P	Left	195+43.25SB	196+60.11SB	124										59.4							194.3															
106–108	32P	Right	195+58.5SB	211+19.5SB		1274													485			1061								354	0.032	0.38					
107–110	33P	Lt/Med.	198+31.17NB	210+86NB	260.6	968.8									133.5				458.5			758.83								323	0.029	0.349		200.2			
107	34P	Right	198+31.17NB	199+32NB		35					0.4																	100.83									35
108–110	35P	Left	205+59.14SB	215+00	164.2	985.25	32.8				32.8	41.1															985.25										
109–110	36P	Median	210+86NB	215+00	276.7		7.2	5.5	12.7				2.3								223		156														
			Bridge HAM-71-0154 L/R																																		
95	37P	SB	137+44.55	137+69.55			16.1											195.2															152.1				
95	38P	NB	139+33.35	139+58.35			18.2											148.6															100				
95	39P	NB	139+07.41B	139+32.41B			5.7											72.8															57.5				
97	40P	SB	149+96.72	150+21.72			18.2											148.6															100				
97	41P	NB	149+96.72	150+21.72			18.2											148.6															100				
	42P		Not Used																																		
			Bridge HAM-71-0192 L/R																																		
98	43P	SB	159+15.79	159+40.79			14.8											154															104				
98	44P	NB	159+15.79	159+40.79			22.3											162.1															102.5				
98	45P	NB	160+43.15N	160+68.15N			8.6											61.7															38.8				
99	46P	SB	162+46.24	162+71.24			8.3											157.5															135.3				
99	47P	NB	162+46.24	162+71.24			15.6											184.3															142.6				
					4262.3	16138.81	303.1	47.8	15.6	12.5	113.7	141.7	13.7	2.6	503.4	211.8		1433.4	2795.54	47.36	1745.32	9626.38			446.4		3168.86	1951.83	223.9	2803.8	0.252	3.018	1032.8	218.2			
TOTALS CARRIED TO GENERAL SUMMARY					4,262	16,139	303	48	16		126	142	14	3	503	212	554	1,433	2,795	47	1,745	9,626	156	100	446	659	3,169	1,952	224	2,804	0.25	3.02	1,033	218	1	1	315

NOTE: For General Summarys, See Sheets 90–92.

PAVEMENT ESTIMATED QUANTITIES

					202					203		452	301			446		609	612	617	659				845	Special	611				622	518
SHT. NO.	REF. NO.	SIDE	STATION	STATION	Concrete Median Removed	Curb Removed	Approach Slab Removed	Curb Removed As Per Plan B	Approach Slab Removed, As Per Plan	Excavation Not Including Embankment Construction	Embankment	4" Plain Concrete Pavement	3" Bituminous Aggregate Base, AC-20	6" Bituminous Aggregate Base, AC-20	Bituminous Aggregate Base, AC-20, Variable Depth	1 1/4" Asphalt Concrete Surface Course, Type 1, AC-20	1 1/2" Asphalt Concrete Surface Course, Type 2, AC-20	Curb, Type 6	4" Concrete Median, As Per Plan	4" Compacted Aggregate, Type A	Seeding and Mulching	Commercial Fertilizer	Water		LATEX Modified Concrete Overlay (1.75" Thick)	Pressure Relief Joint, Type C	Reinforced Concrete Approach Slab (T=15")	Reinforced Concrete Approach Slab (T=17"), As Per Plan	Reinforced Concrete Approach Slab (T=15"), As Per Plan	Reinforced Concrete Approach Slab Variable Thickness	Concrete Barrier, Type D, As Per Plan C	Porus Backfill, 518.02
					Sq. Yd.	Lin. Ft.	Sq. Yd.	Lin. Ft.	Sq. Yd.	Cu. Yd.	Cu. Yd.	Sq. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.	Lin. Ft.	Sq. Yd	Cu. Yd.	Sq. Yd.	Ton	M. Gal.		Sq. Yd.	Lin. Ft.	Sq. Yd.	Sq. Yd.	Sq. Yd.	Sq. Yd.	Lin. Ft.	Cu. Yd.
			INTERSTATE 71																													
			Bridge HAM-71-0192 W																													
99	48P	SB	162+71.71S	162+96.71S			52.8			5.2																				66.7		
98	49P	SB	158+34.75S	158+59.75S			91.7			11.5																				122.2		
			Bridge HAM-71-0228																													
111	50P	Ramp RD	175+54.65RD	175+79.65RD					10.7																86				10.7			
102	51P	Ramp RD	179+44.07RD	179+69.07RD					19.3																93.8				19.3			
111	52P	Ramp RD	175+68.01RD	175+84.54RD	30.6					0.9		15.3																			38.5	15.3
			Bridge HAM-42-0235R																													
111	53P	NBR	15+63.95NBR	15+88.95NBR					12.7																84.2				12.7			
102	54P	NBR	20+31.50NBR	20+56.50NBR			69.4																					75				
			Bridge HAM-71-0243R																													
103,104	55P	ML	186+19.04NB	186+44.04NB			200			19.8																		226.4				
107	56P	ML	198+27.25NB	198+52.25NB			166.7			18.8																		216.7				
–	57P	–	Not	Used																												
			Bridge HAM-42-0257R																													
104	58P	Ramp RB	188+26.19RB	188+51.19RB						6.5															71.7		17.4					
105	59P	Ramp RB	191+96.25RB	192+21.25RB						10.4															72.2		27.8					
			Bridge HAM-71-0243L																													
104	60P	SB	187+62.75SB	187+87.75SB			100			14.6																		138.9				
106	61P	SB	195+42.75SB	195+67.75SB			125			5.7																		139				
–	62P	–	Not	Used																												
			Bridge HAM-42-0264R																													
104	63P	GA	189+90.25GA	190+15.25GA			127.8			8.9																		151.4				
106	64P	GA	195+46.63GA	195+71.63GA			81.9			7.3																		101.4				
–	65P	–	Not	Used																												
98	66P	Right	158+35NB	160+54NB				219					0.4		1.7	0.2																
100	67P	Right	168+60NB	170+55NB				196					1.8		7.3	0.8																
102	68P	Right	180+54.7SB	181+99SB				144.3					1.3		5.3	0.3																
103	69P	Right	185+00NB	186+37NB		137																										
			RAMP RF to SB INTERSTATE 71																													
104	70P	Left	186+96.78RF	187+99RF		103									3.8	0.4	0.5															
			RAMP RC to RAMP RE																													
104	71P	RC	188+14.22RC	188+60RC	35.8						1.7							45			20.8	0.002	0.022									
–	72P	–	Not	Used																												
110	73P	Median	215+00	215+50	33.3					1.1				1.6					23.6													
110	74P	Left	215+00	215+35.4 SB	5.9	25												25		0.7												
			BRIDGE HAM-22-0145																													
101	75P	–	28+51.76GBN	28+76.76GBN			363.3																							363.3		
100,101	76P	–	31+61.86GBN	31+86.86GBN			426.2																							426.2		
			BRIDGE HAM-71-0221																													
101	77P	–	13+20.65EP	13+45.65EP	9.8		186.4																							186.4		
101	78P	–	15+62.77EP	15+87.77EP	3.6		231.9																							231.9		
			BRIDGE HAM-71-0289																													
109	79P	–	13+37.79McG	13+62.79McG			100																							100		
–	80P		Not	Used																												
102	81P	–	181+18RD	Ramp RD																						32						
103	82P	–	21+63.5NBR	NB Reading Rd.																						25						
104	83P	–	189+04RA	Ramp RA																						16						
104	84P	–	189+10GA	Ramp GA																						16						
104	85P	–	187+49RB	Ramp RB																						17						
					119.0		2323.1	559.3	42.7	110.7	1.7	15.3	3.5	1.6	18.1	1.7	0.5		23.6	0.7	20.8	0.002	0.0022		407.9		45.2	1048.8	42.7	1496.7	38.5	15.3
TOTALS CARRIED TO GENERAL SUMMARY					119	265	2323	559	43	111	2	15	4	2	18	2	1	70	24	1	21	0.002	0.02		408	106	45	1049	43	1497	39	15

NOTE: For General Summarys, See Sheets 90–92.
NBR – Northbound Reading Road
ML – Mainline

ROADWAY ESTIMATED QUANTITIES

SHT. NO.	REF. NO.	SIDE	STATION	STATION	202 Guardrail Removed	202 Guardrail Removed, Barrier Design	202 Anchor Assembly, Removed Type A	202 Anchor Assembly, Removed Type T	202 Anchor Assembly Removed For Storage, Type E	606 Anchor Assembly, Type E	606 Anchor Assembly, Type T	606 Guardrail, Type 5	606 Bridge Terminal Assembly, Type 1	606 Bridge Terminal Assembly, Type 2	606 Guardrail, Type 5A	202 Bridge Terminal Assembly Removed
					Lin. Ft.	Lin. Ft.	Each	Each	Each	Each	Each	Lin. Ft.	Each	Each	Lin. Ft.	Each
			INTERSTATE 71													
113–115	1R	Rt.	435+37.5	1+69.5(Bridge)	3212.5		1			1		3150	1			1
113	2R	Lt.	435+50	440+00	425				1							
113,114	3R	Lt.	435+37.5	455+97	1462.5			1			1	2025		1		
113–115	4R	Median	433+87.5	467+70(Bridge)	50	3250										1
113	5R	Median	435+01.5±	436+26.52								225	1	1		
115	6R	Lt.	456+56.25	467+68.75(Bridge)	1168.75							1087.5	1	1		1
–	7R	–	Not	Used												
–	8R	–	Not	Used												
115	9R	Rt.	17+73.7A	19+23.7(Bridge)	75		1			1		100	1			1
115–119	10R	Median	469+67(Bridge)	519+72(Bridge)	475	4712.5										2
116	11R	Lt.	478+00	481+75	225		1	1		1	1	125/62.5*			125	
116	12R	Rt.	477+50	480+12.5	162.5		1	1		1	1	150			50	
117	13R	Rt.	500+25	501+50							1	87.5		1		
118	14R	Lt.	505+37.5	510+12.5	512.5		1	1		1		425	1			
118,119	15R	Rt.	505+31.25	2+78F(Bridge)	1125		1			1		1150	1			1
119	16R	Lt.	519+15	520+52.5(Bridge)	112.5			1			1	100		1		1
–	17R	–	Not	Used												
–	18R	–	Not	Used												
119	19R	Lt.	523+50(Bridge)	525+50	112.5		1			1		150	1			1
119	20R	Rt.	523+50	529+00						1		50/450*	1			
–	21R	–	Not	Used												
120	22R	Lt.	540+83	542+33	75		1			1		50	1			
119–121	23R	Median	523+10.98(Bridge)	548+35.98	37.5	2487.5										2
–	24R	–	Not	Used												
–	25R	–	Not	Used												
			RAMP A-RED BANK EXPRESSWAY													
122	26R	Lt.	2+00A	3+50A	62.5		1	1			1	237.5		1		
116	27R	Rt.	6+36A	8+11A(Bridge)	50		1			1		125	1			1
116	28R	Lt.	6+34A	8+09A(Bridge)	100		1			1		125	1			1
116	29R	Rt.	11+05A(Bridge)	12+17.5A	37.5			1			1	75		1		1
–	30R	–	Not	Used												
–	31R	–	Not	Used												
			RAMP B-RED BANK EXPRESSWAY													
115,116,122	32R	Rt.	3+80B(Bridge)	81+71.82 RBank	1737.5							1712.5		1		1
115,116,122	33R	Lt.	7+00B	12+50B	437.5		1	1		1	1	487.5				
–	34R	–	Not	Used												
–	35R	–	Not	Used												
			RAMP C-RED BANK EXPRESSWAY													
117	36R	Rt.	0+75C	2+00C	62.5		1	1								
116,117	37R	Rt.	0+50C	16+62.5C(Bridge)	237.5		1	1		1		1562.5	1			
116,117	38R	Lt.	10+50C	16+12.5C(Bridge)	437.5		1			1		512.5	1			1
116	39R	Rt.	11+50C	16+62.5C(Bridge)	462.5		1									1
116	40R	Lt.	21+54C(Bridge)	22+91.5C	112.5			1			1	100		1		1
116,122	41R	Rt.	21+77.5(Bridge)	25+02.5C	300			1			1	287.5		1		1
–	42R	–	Not	Used												
–	43R	–	Not	Used												
			RAMP D-RED BANK EXPRESSWAY													
116,117,122	44R	Rt.	81+71.82RBank	499+75	3500							3225	1			
–	45R	–	Not	Used												
–	46R	–	Not	Used												
TOTALS CARRIED TO NEXT COLUMN					16,768.75	10,450	16	12	1	14	10	17,325	14	10	175	19
												512.5*				

SHT. NO.	REF. NO.	SIDE	STATION	STATION	202 Guardrail Removed	202 Guardrail Removed, Barrier Design	202 Anchor Assembly, Removed Type A	202 Anchor Assembly, Removed Type T	202 Anchor Assembly Removed For Storage, Type E	606 Anchor Assembly, Type E	606 Anchor Assembly, Type T	606 Guardrail, Type 5	606 Bridge Terminal Assembly, Type 1	606 Bridge Terminal Assembly, Type 2	606 Guardrail, Type 5A	202 Bridge Terminal Assembly Removed
					Lin. Ft.	Lin. Ft.	Each	Each	Each	Each	Each	Lin. Ft.	Each	Each	Lin. Ft.	Each
			RED BANK EXPRESSWAY													
122	47R	Median	74+25 ℄	85+75 ℄		1150										
–	48R	–	Not	Used												
–	49R	–	Not	Used												
			STEWART ROAD – RAMP E													
119	50R	Rt.	55+05 STW.RD.	2+50E	200		1	1		1	1	237.5				
			STEWART ROAD													
119	51R	Lt.	47+18.5	51+93.5	387.5		2			2		400				
			STEWART ROAD – RAMP F													
119	52R	Lt.	7+75F	9+25F						1		100	1			
TOTALS THIS COLUMN					587.5	1150	3	1	–	4	1	737.5	1	–	–	–
TOTALS CARRIED FROM PREVIOUS COLUMN					16,768.75	10450	16	12	1	14	10	17325	14	10	175	19
												512.5*				
TOTALS CARRIED TO GENERAL SUMMARY					17,356.25	11,600	19	13	1	18	11	18,062.5	15	10	175	19
												512.5*				

NOTE: Stw.Rd. Represents Stewart Road.
For General Summarys, See Sheets 90–92.

* 100% Federal CMAQ Funds

ROADWAY ESTIMATED QUANTITIES

SHT. NO.	REF. NO.	SIDE	STATION	STATION	202 Fence Removed, As Per Plan	601 Rock Channel Protection, Type B With Filter	607 Fence, Type CLT		FOR INFORMATION ONLY: Fence Terminal, Type 2 A	Fence Terminal, Type 2 B	Fence Terminal, Type 2 C	Fence Terminal, Type 2 D	Intermediate Anchor Post Assembly (IAPA)	End Post Assembly (EPA)	Corner Post Assembly (CPA)	Abutment Connection (AC)	Stream Crossing Type 1	Stream Crossing Type 2	Stream Crossing Type 3	Stream Crossing Type –
					Lin. Ft.	Cu. Yd.	Lin. Ft.		Ea.	Ea.	Ea.	Ea.	Each	Each	Each	Each	Ea.	Ea.	Ea.	–
			INTERSTATE 71																	
113	1F	Rt.	435+74.02	437+42	220		228		1					1	2					
113–115	2F	Rt.	437+49	465+72	2940		2955		1	1			8		2				2	
113	3F	Lt.	436+05.09	437+02	200	7	205		1					1	2			1		
113	4F	Lt.	437+10	442+85	675	7	655		1						3		1	1		
113–115	5F	Lt.	442+85	468+28.27	2412	23	3053						6	1	1		1	1		
115	6F	Rt/Lt	465+79	467+34.49	627		274			1				1	2					
–	7F	–	Not	Used																
115,116,122	8F	Rt.	469+94.94 Lt.	84+98 RBank	1720		1350				1		2	1	4				1	
115–117	9F	Lt.	469+94.94	498+50	2677	21	2734						6	1	1			4	4	
116,117,122	10F	Rt.	81+80 RBank	497+85	3040	35	3040						7	1	5			5		
117–118	11F	Rt.	497+85	45+00 Stw. Rd.	1907		1907						3	1	2					
117–119	12F	Lt.	498+50	55+04.95 Stw. Rd.	2773		2773						10	1						
–	13F	–	Not	Used																
–	14F	–	Not	Used																
119–120	15F	Rt.	44+98.68 Stw. Rd.	540+26	2951		2963					1	8	1	3				1	
119–120	16F	Lt.	55+04.95 Stw. Rd.	538+47	1719		1719					1	7	1	1					
120–121	17F	Rt.	540+37	549+00	875		905					1	2		1				2	
120–121	18F	Lt.	538+60	547+00	851		851					1	2		1			1	1	
–	19F	–	Not	Used																
–	20F	–	Not	Used																
			BRIDGE HAM-71-0965R/L																	
115	21F	Median	467+85±	467+93±			18									2				
115	22F	Median	469+47±	469+54±			18									2				
									4	2	1	4	61	11	30	4	2	13	11	
TOTALS CARRIED TO GENERAL SUMMARY					25,587	93	25,648													

NOTE: Stw.Rd. Represents Stewart Road.
For General Summarys, See Sheets 90–92.

DRAINAGE ESTIMATED QUANTITIES

SHT. NO.	REF. NO.	SIDE	STATION	STATION	202 Inlet Removed	202 Catch Basin Removed	202 Curb Removed		203 Excavation Not Including Embankment Construction		452 6" Plain Concrete Pavement		603 15" Conduit, Type B 706.02	603 15" Conduit, Type C 706.02	604 Inlet, No. 3D	604 Inlet, No. 3B50, As Per Plan	604 Inlet, No. 3B	604 Catch Basin, No. 5 Without Apron	604 Catch Basin Adjusted To Grade	604 Manhole Adjusted To Grade	604 Manhole Reconstructed To Grade		609 Curb, Type 2-A		670 Ditch Erosion Protection
					Each	Each	Lin. Ft.		Cu. Yd.		Sq. Yd.		Lin. Ft.	Lin. Ft.	Each	Each	Each	Each	Each	Each	Each		Each		Sq. Yd.
			INTERSTATE 71																						
113	1D	Median	436+50 Lt./Rt.		2								12			2		1							
113	2D	Median	439+50	439+70	2								20	26.5		4									
114	3D	Median	448+15	448+35	2								20	26.5		4		1							
114	4D	Median	458+50	458+70	1								20			2									
–	5D	–	Not Used																						
–	6D	–	Not Used																						
115	7D	Median	467+55 Rt.		1											1									
116	8D	Median	476+80 Rt.	477+00 Rt.	1								20	6.6		2		1							
116	9D	Median	483+00 Rt.		1									4		1									
116	10D	Median	483+60 Lt.																	1					
116	11D	Median	484+00 Rt.	484+00 ℄	1									6.6		1		1							
116	12D	Median	485+25 Rt.		1											1									
–	13D	–	Not Used																						
–	14D	–	Not Used																						
117	15D	Median	492+15 Lt./Rt.	492+35 Lt./Rt.	2								20	13.2		4		1							
118	16D	Median	511+25 Lt.	511+45 Lt.	1								20			2									
119	17D	Median	523+12 ℄	523+75 ℄	1									69.1		1		2							
119	18D	Median	530+50 Rt.	530+70 Rt.	1								20			2									
119	19D	Rt.	528+95						1.3		8														9
119	20D	Lt.	530+45						1.3		8														9
120	21D	Median	539+65 Rt.	539+85 Rt.	1								20			2									
120	22D	Median	539+45 ℄																	1					
120	23D	Median	542+00 ℄																	1					
120	24D	Median	544+50 ℄																	1					
121	25D	Median	547+00 Lt.	547+20 Lt.	1								20	6.6		2					1				
119	26D	Lt.	17+05F Ramp F						1.3		8														9
119	27D	Median	526+50 ℄																	1					
119	28D	Rt.	21+26F Ramp F																	1					
			RED BANK EXPRESSWAY																						
122	29D	Median	76+00 ℄			1									1										
122	30D	Median	81+80 ℄		1												1								
122	31D	Median	79+04 ℄			1									1										
122	32D	Lt.	75+88 ℄																	1					
122	33D	Lt.	76+00 ℄																1						
122	34D	Lt.	78+92 ℄																	1					
122	35D	Lt.	79+04 ℄																	1					
–	36D	–	Not Used																						
			STEWART ROAD																						
119	37D	Lt.	46+13																1	1					
119	38D	Lt.	47+00																						
119	39D	Rt.	47+07																	1					
119	40D	Lt.	48+10																	1					
119	41D	Rt.	50+00																	1					
119	42D	Lt.	50+57																	1					
119	43D	Rt.	51+20																1						
119	44D	Rt.	52+00																1						
119	45D	Lt.	52+35				6												1				6		
119	46D	Rt.	53+00																1						
119	47D	Rt.	53+46																	1					
									3.9					159.1											
TOTALS CARRIED TO GENERAL SUMMARY					20	2	6		4		24		192	159	2	31	1	7	6	15	1		6		27

NOTE: For General Summarys, See Sheets 90–92.

UNDERDRAIN ESTIMATED QUANTITIES

SHT. NO.	REF. NO.	SIDE	STATION	STATION	FOR INFORMATION ONLY: 4"-90° Elbow	4"-60° Elbow	4"x4"-45° WYE	6"x6" Tee	6"x6"-Cross Tee	6"x6"-60° Elbow	4"x6" Reducer	4"x4" Tee	4"x4" Cross Tee	6"-90° Elbow	4"-45° Elbow	4"x6"-45° Wye	4"x4"-60° Wye	End Cap (See Note)	Special: Precast Reinforced Concrete Outlet	603: 4"or 6" Conduit, Type F, 707.17 Non-Perforated, ASTM D-3034 SDR35, SS931 or SS964: 6"	603: 4"	605: 6" Unclassified Pipe Underdrain	605: Shallow Underdrain, As Per Plan	605: 6" Shallow Pipe Underdrain	605: 4" Unclassified Pipe Underdrain	605: 4" Shallow Pipe Underdrain 707.15, As Per Plan
																			Each	Lin. Ft	Lin. Ft	Lin. Ft	Lin. Ft	Lin. Ft	Lin. Ft	Lin. Ft
			INTERSTATE 71																							
113,114	1U	Rt.	433+87.5	448+38								2			1	1		1	2	25	25					1368
113,114	2U	Med. Rt.	433+87.5	448+20								1			1	1	1	1		12	12		1350			
113,114	3U	Med. Lt.	433+87.5	448+20								2			1	1		1		12	12		1350			
113,114	4U	Lt.	433+87.5	446+50								2			1	1		1	2	25	25		1180			
114,115	5U	Rt.	448+38	461+50								2			1	1	1		3	25	50					1312
114	6U	Med. Rt.	448+14	458+57											1	1	1			12			1043			
114	7U	Med. Lt.	448+20	458+50											1	1	1			12			1030			
114,115	8U	Lt.	446+50	462+62								2			1	1	1		3	25	50		1612			
113	9U	Median	435+94	436+50																10				46		
–	10U	–	Not Used																							
115	11U	Rt.	461+50	0+44B							1	1		1	2				2	25	25			136		455
114,115	12U	Med. Rt.	458+57	467+55							1	1		1	2					12	72		761	135		
114,115	13U	Med. Lt.	458+50	467+55				1			1	1			2			1		25	12	15	780	127		
115	14U	Lt.	462+62	467+90							1			1	2				1	25			390	135		
115,116	15U	Rt.	469+50	483+75							1	2						1	2		50	140	1284			
115,116	16U	Med. Rt.	469+70	484+00							1	2						1		8	30	140	1294			
115,116	17U	Med. Lt.	469+85	484+00							1	1						1			18	140	1277			
115,116	18U	Lt.	470+08	484+00	1						1	2						2	2		75		950	140		305
–	19U	–	Not Used																							
–	20U	–	Not Used																							
116,117	21U	Rt.	483+75	489+43								1						1			30		568			
116–118	22U	Med. Rt.	484+00	511+25								1			1	1	1			29	18		2725			
116–118	23U	Med. Lt.	484+00	511+25								1			1	1	1			15	18		2725			
116,117	24U	Lt.	484+00	495+00								2			1	1		1	1	30	25		1100			
117	25U	Rt.	491+00	501+00								2							2		50		1000			
117,118	26U	Rt.	501+00	511+50								1			1	1	1	1	2	25	25		1050			
117,118	27U	Lt.	1+00C	513+50								2			1	1	1		3	25	50		1550			100
–	28U	–	Not Used																							
–	29U	–	Not Used																							
118,119	30U	Rt.	511+50	2+70F		1					1				1	1		1	1	25				136		606
118,119	31U	Med. Rt.	511+25	519+50							1	1						1			24	138	695			
118,119	32U	Med. Lt.	511+25	520+00							1	1						1			12	138	745			
118,119	33U	Lt.	513+50	520+40	1								1	1				2	2	26	45		558	138		
119	34U	Rt.	522+70	531+00							1	1		1	3	1			1	45	25		696	138		
119	35U	Med. Rt.	523+05	530+50							1	1		1	2					18	18		609	138		
119	36U	Med. Lt.	523+20	530+50				1		1	1				2					38	18		600	138		
119	37U	Lt.	523+56	531+00							1	1		1	2				2	25	25		621	130		
–	38U	–	Not Used																							
–	39U	–	Not Used																							
119–121	40U	Rt.	531+00	546+73.48								4			4	4		1	4		113		1574			
119–121	41U	Med. Rt.	530+50	546+73.48								3						1		4	48		1624			
119–121	42U	Med. Lt.	530+50	546+73.48								3			1	1		1		24	36		1624			
119–121	43U	Lt.	531+00	546+73.48			1					3			1	1		1	3	50	75		1574			
–	44U	–	Not Used																							
–	45U	–	Not Used																							
			RED BANK EXPSWY. and RAMPS																							
			RAMP A																							
116,122	46U	Lt.	81+85 RBank	8+00A								1			3	1			2	25	31		1200			
115,116	47U	Lt.	11+30A	15+00A	1													1	1		25		370			
115	48U	Rt.	15+00A	19+10A	1						1							1	1	25		138	273			
–	49U	–	Not Used												1	1										
			RAMP B																							
115	50U	Lt.	4+80B	7+00B											1	1	1	2	1	35			45		175	
115,116,122	51U	Rt.	7+00B	81+71.82 RBank					1						5	3			3	75						
–	52U	–	Not Used																							
TOTALS CARRIED TO NEXT COLUMN					4	1	1	2	1	1	16	50	1	7	47	27	10	26	46	792	1167	849	37827	1537	175	4146

SHT. NO.	REF. NO.	SIDE	STATION	STATION	FOR INFORMATION ONLY: 4"-90° Elbow	4"-60° Elbow	4"x4"-45° WYE	6"x6" Tee	6"x6"-Cross Tee	6"x6"-60° Elbow	4"x6" Reducer	4"x4" Tee	4"x4" Cross Tee	6"-90° Elbow	4"-45° Elbow	4"x6"-45° Wye	4"x4"-60° Wye	End Cap (See Note)	Special: Precast Reinforced Concrete Outlet	603: 4"or 6" Conduit, Type F, 707.17 Non-Perforated, ASTM D-3034 SDR35, SS931 or SS944: 6"	603: 4"	605: 6" Unclassified Pipe Underdrain	605: Shallow Underdrain, As Per Plan	605: 6" Shallow Pipe Underdrain	605: 4" Unclassified Pipe Underdrain	605: 4" Shallow Pipe Underdrain 707.15, As Per Plan
																			Each	Lin. Ft	Lin. Ft	Lin. Ft	Lin. Ft	Lin. Ft	Lin. Ft	Lin. Ft
			RAMP C																							
117	53U	Rt.	1+00C	8+25C								2			1	1		1	2	25	25		525			
116,117	54U	Lt.	8+25C	16+35C								1			2	1		1	2	45	25		810			
116,122	55U	Lt.	21+45C	25+75C											2	1		1	1	25			430			
122	56U	Rt.	25+75C	28+99.17C	1											1		1		6			324			
–	57U	–	Not Used																							
			RAMP D																							
117,122	58U	Rt.	0+00D	491+00ML								2			3	2			3	50	25					
–	59U	–	Not Used																							
			RED BANK EXPRESSWAY																							
122	60U	Lt.	81+85 RBank	85+00 RBank											1			1			8		315			
–	61U	–	Not Used																							
			RAMP E																							
118,119	62U	Rt.	0+05E	12+06.08E								1			1	1		1	1	25			1206			
–	63U	–	Not Used																							
			RAMP F and F_1																							
119	64U		6+07F	21+75F								1			5	4	2	2	1	80	25		1549		15	
119	65U		1+50F_1	2+50F_1											1			1			24		115			
–	66U	–	Not Used																							
TOTALS THIS COLUMN					1	–	–	–		–	–	7	–	–	16	11	2	9	10	256	132	–	5274	–	15	–
TOTALS CARRIED FROM PREVIOUS COLUMN					4	1	1	2	1	1	16	50	1	7	47	27	10	26	46	792	1167	849	37827	1537	175	4146
					5	1	1	2	1	1	16	57	1	7	63	38	12	35								
TOTALS CARRIED TO GENERAL SUMMARY																			56	1048	1299	849	43101	1537	190	4146

NOTE: For End Cap Size, See Plan Sheets.
For General Summarys, See Sheets 90–92.

PAVEMENT ESTIMATED QUANTITIES

SHT. NO.	REF. NO.	SIDE	STATION	STATION	202				203		301		407	SPECIAL	845	446		611	601	622						659		
					Concrete Median Removed	Curb Removed, As Per Plan A	Curb Removed, As Per Plan B	Approach Slab Removed	Excavation Not Including Embankment Construction	Embankment	3" Bituminous Aggregate Base AC-20	Bituminous Aggregate Base, AC-20, Varable Depth	Tack Coat	Pressure Relief Joint, Type C	LATEX Modified Concrete Overlay (1.75" Thick)	1¼" Asphalt Concrete Surface Coarse, Type 1, AC-20	1¾" Asphalt Concrete Intermediate Coarse, Type 2, AC-20	Reinforced Concrete Approach Slab (T=17"), As Per Plan	Rock Channel Protection, Type C Without Filter	Concrete Barrier, Type B As Per Plan A	Concrete Barrier, Type C	Concrete Barrier, Type D50	Concrete Barrier, Type D As Per Plan A	Concrete Barrier, Type D50 As Per Plan	Concrete Barrier, Type B, As Per Plan C	Seeding and Mulching	Commercial Fertilizer	Water
					Sq. Yd.	Lin. Ft.	Lin. Ft.	Sq. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.	Gal.	Lin. Ft.	Sq. Yd.	Cu. Yd.	Cu. Yd.	Sq. Yd.	Cu. Yd.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Lin. Ft.	Sq. Yd.	Ton	M. Gal.
			INTERSTATE 71																									
113-115	1P	Median	435+93	467+72					494													6098						
114	2P	Lt.	455+97	456+56.25 Lt.					4	1													59.25			29	0.003	0.03
115-119	3P	Median	469+63	519+87					796													9828						
117	4P	Rt.	499+75	500+25					4	1													50			24	0.002	0.03
118	5P	Lt.	505+03.5	505+37.5					3	1													34			17	0.002	0.02
119-121	6P	Median	523+04	548+35.98					399													4923.96						
119	7P	Lt.	9+25F	17+00F					100	14									1.3					775		347	0.03	0.37
119,120	8P	Rt.	529+00	538+00					117	18									0.9					900		402	0.04	0.43
119,120	9P	Lt.	530+50	536+00					71	10									0.5					550		247	0.02	0.27
122	10P	Median	74+25 RBank	0+75 A					14											699.32	308.18				175.8			
115	11P	Rt.	4+32.20B Ramp	B & NB I-71	36	123			9	2	3	9	4			1										27	0.003	0.04
115	12P	Lt.	16+42.67A	19+47.75A		133	148			1.1		4	1.6			0.6	0.7									30	0.003	0.03
116,117	13P	Lt.	12+25D	17+11.60D		165	321.6			1.4	3	8.9	4			1.2										37	0.003	0.04
117	14P	Lt.	2+94.93C Ramp	C & SB I-71	28	131			7	1.7	2.3	7	2.8			1										29	0.003	0.03
118	15P	Lt.	8+50E	12+06.08E		100	256			0.9	2.4	7	2.8			1										22	0.002	0.02
119	16P	Lt.	6+18F	7+44.01F	31	134				1.9																32	0.003	0.04
			RAMP A-NB RED BANK EXPWY.																									
122	17P	Rt.	4+29.08A	5+29.08A	30	124			8	1.1		8	3			1	1.3									28	0.003	0.03
			RAMP B-SB RED BANK EXPWY.																									
122	18P	Lt.	13+74.12B	16+74.12B		91	218			0.8		6.1	2.4			0.8	1.0									20	0.002	0.02
–	19P	–	Not	Used																								
–	20P	–	Not	Used																								
120	21P	Lt.	536+00	540+83					3	1													34			17	0.002	0.02
			BRIDGE HAM-71-0965 R/L																									
115	22P	Rt.	467+62.27	467+87.27				134.4	19									184.4										
115	23P	Rt.	469+50.23	469+75.23				173.6	19									223.6										
115	24P	Lt.	467+62.27	467+87.27				129.6	19									179.6										
115	25P	Lt.	469+50.23	469+75.23				171.1	19									221.1										
			BRIDGE HAM-71-0986																									
116	26P	–	8+01.13A	8+26.13A					10.4						44.4			27.8										
116	27P	–	11+02.76A	11+27.76A					10.4						44.4			27.8										
			BRIDGE HAM-71-0987																									
116	28P	–	16+38.36C	16+63.36C					10.4						44.4			27.8										
116	29P	–	21+52.31C	21+77.31C					10.4						44.4			27.8										
			BRIDGE HAM-71-1063 R/L																									
119	30P	Rt.	519+74.05	519+99.05				177.8	18.4									271.3										
119	31P	Rt.	522+87.46	523+12.46				208.9	15.4									249.9										
119	32P	Lt.	519+92.08	520+17.08				111.1	19.5									163										
119	33P	Lt.	522+80.47	523+05.47				100	17.6									146.9										
116	34P	–	7+21A	Ramp A										18														
116	35P	–	12+28A	Ramp A										18														
116	36P	–	15+35C	Ramp C										18														
116	37P	–	22+52C	Ramp C										18														
							943.6	1206.5	2217.5	56.9	10.7	50.0	20.6		177.6	6.6	3.0	1751.0	2.7	699.32	308.18	20,849.96	177.25		175.8		0.121	
TOTALS CARRIED TO GENERAL SUMMARY					125	1,001	944	1207	2,218	57	11	50	21	72	178	7	3	1751	3	699	308	20,850	177	2,225	176	1,308	0.12	1.42

NOTE: For General Summarys, See Sheets 90-92.

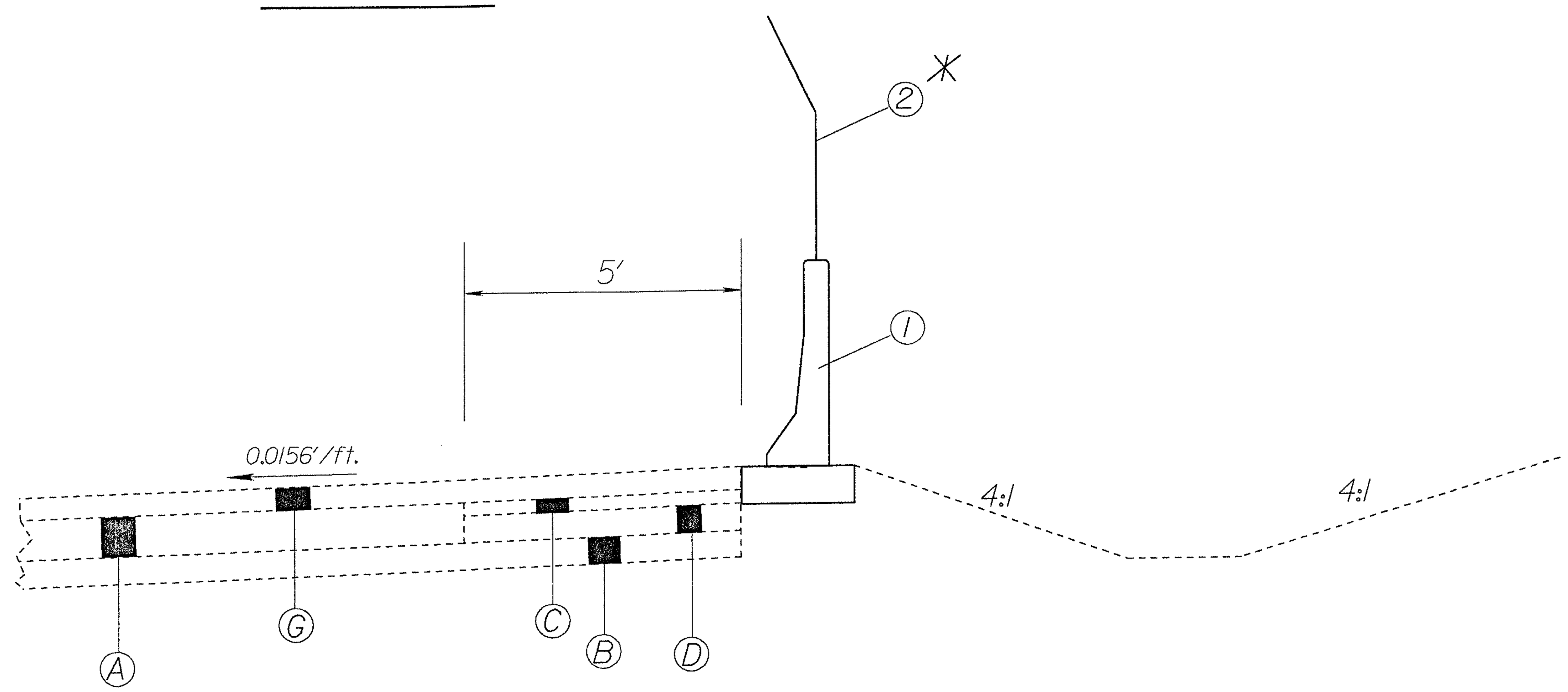
CALC. BY: JDM DATE: 9/5/94	FHWA REGION	STATE	PROJECT	
CHKD. BY: JBB DATE: 10/1/94	5	OHIO		

135A
401

HAM-71-1.30/9.00

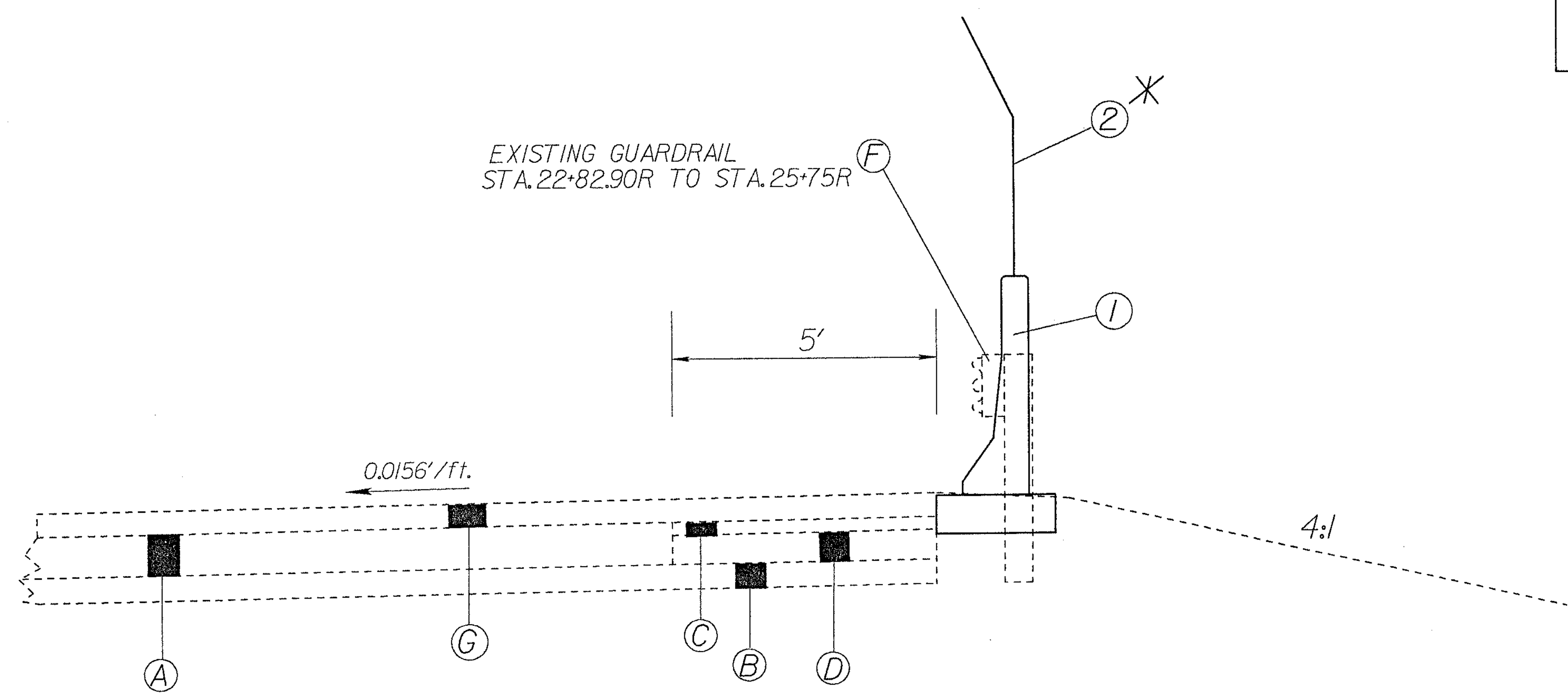
RTMS

Ⓐ 10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
Ⓑ 6" SUBBASE
Ⓒ 3" WATERPROOFED AGGREGATE BASE COURSE
Ⓓ 5" STABILIZED SURFACE TREATMENT
Ⓔ BITUMINOUS SURFACE TREATMENT
Ⓕ EXISTING GUARDRAIL TO BE REMOVED
Ⓖ EXISTING 5-1/2" ASPHALT
① CONCRETE BARRIER,TYPE D-50
② VANDEL PROTECTION FENCE,60"



RAMP R
STA. 27+24.94R TO STA. 29+22.00R

* FENCE DETAILED ON PAGE 8 TO BE ATTACHED ATOP BARRIER WALL STA. 22+92R TO STA. 27+62R



RAMP R
STA. 22+82.90R To STA. 27+24.94R

TYPICAL SECTIONS BARRIER WALL)

HAM-71-1.30/ 9.00

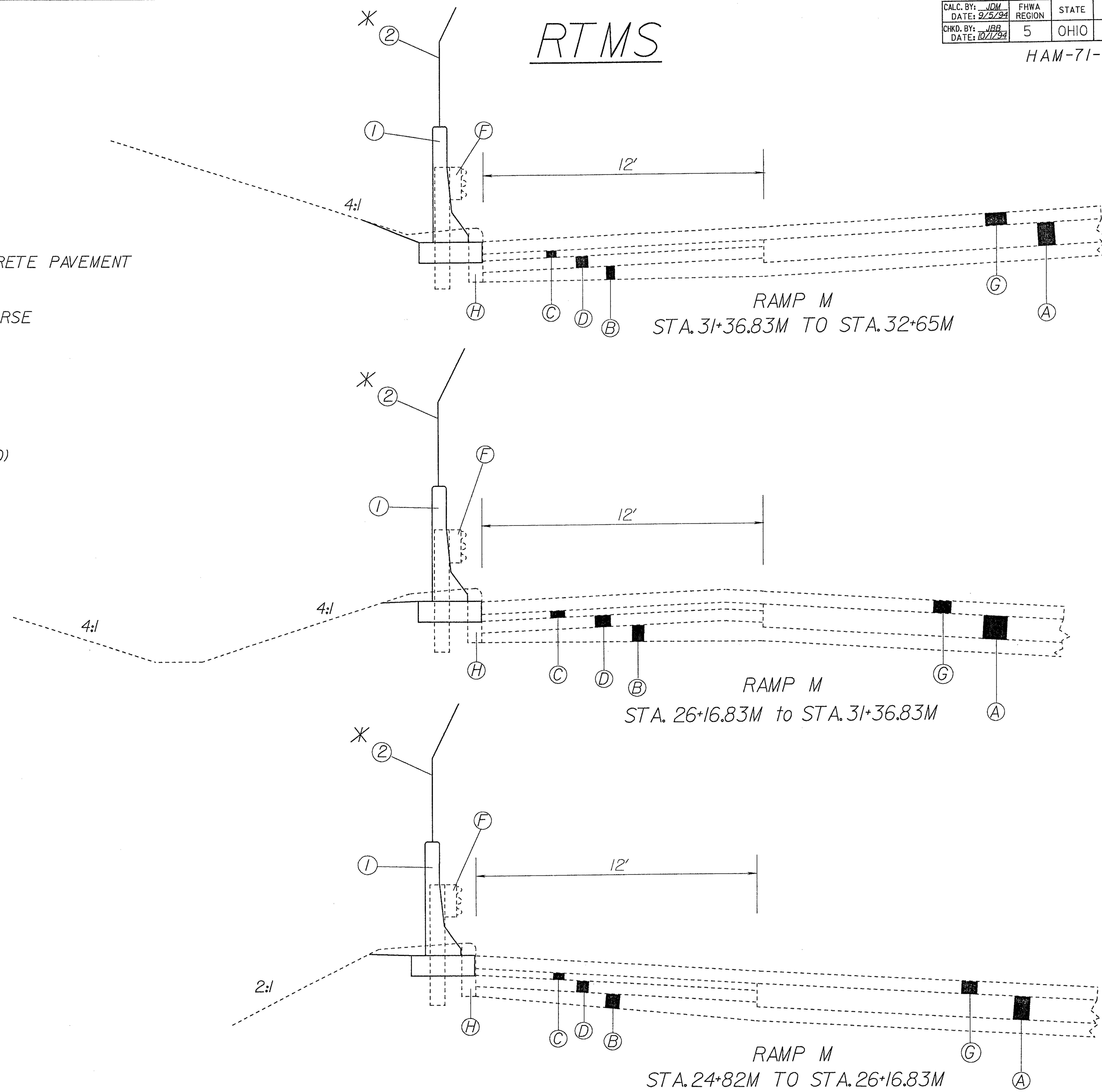
1
10

CALC. BY: JDM DATE: 9/5/94	FHWA REGION	STATE	PROJECT	
CHKD. BY: JBB DATE: 10/1/94	5	OHIO		

135B/401

HAM-71-1.30/9.00

RTMS



Ⓐ 10" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT
Ⓑ 6" SUBBASE
Ⓒ 3" WATERPROOFED AGGREGATE BASE COURSE
Ⓓ 5" STABILIZED SURFACE TREATMENT
Ⓔ BITUMINOUS SURFACE TREATMENT
Ⓕ EXISTING GUARDRAIL TO BE REMOVED
Ⓖ EXISTING 5-1/2" ASPHALT
Ⓗ EXISTING TYPE 6 CURB (TO BE REMOVED)
Ⓘ CONCRETE BARRIER,TYPE D-50
② VANDEL PROTECTION FENCE,60"

✱ FENCE DETAILED ON PAGE 8 TO BE ATTACHED ATOP BARRIER WALL STA.27+70M TO STA.32+20M

TYPICAL SECTIONS (BARRIER WALL)

HAM-71-1.30/9.00

2/10

GENERAL NOTES

RTMS

ITEM 517 - RAILING, AS PER PLAN

PORTIONS OF THE EXISTING CONCRETE SHALL BE REMOVED, HAULED AWAY, DISPOSED OF OFF THE SITE. ALL CONCRETE AND REINFORING STEEL REMOVED AN NOT REUSED SHALL, UNLESS OTHERWISE SPECIFIED, BECOME THE PROPERTY OF THE CONTRACTOR. UNDER NO CIRCUMSTANCES SHALL THE MATERIAL BE PERMITTED TO REMAIN ON THE PREMISES. RIGHT-OF-WAY, OR STREETS PENDING DISPOSAL OF SAME FOR ANY OTHER PURPOSE, UNLESS OTHERWISE SPECIFIED BY THE ENGINEER. WHEN SO DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL WET DOWN CONCRETE THOROUGHLY DURING REMOVAL OPERATIONS TO PREVENT THE SPREAD OF DUST.

EXISTING REINFORCING STEEL THAT IS TO BE PRESERVED SHALL NOT BE CUT FLUSH AT ALL LOCATIONS BUT SHALL BE CUT AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER TO SERVE AS EXTENSIONS OR PRINCIPAL REINFORCEMENT IN THE FACED RAILING. CARE SHALL BE TAKEN TO PRESERVE THE BOND OF SUCH REBARS OR PRINCIPAL REINFOREMENT IN THE EXISTING CONCRETE. THESE REBARS SHALL BE CLEANED OF ALL CONCRETE FRAGMENTS AND FOREIGN MATTER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REBARS. HAND TOOLS SHALL BE EMPLOYED FOR FINAL CLEANING. DAMAGED REINFORCEMENT THAT IS TO REMAIN SHALL BE CUT AND THE STRESS TRANSFER SHALL BE ACCOMPLISHED BY EITHER A LAPPED OR MECHANICAL SPLICE. ANY ADDITIONAL REINFORCEMENT OR MECHANICAL SPLICES SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE STATE. OTHER EXISTING REINFORCEMENT WITHIN THE REMOVAL LIMITS SHALL BE REMOVED AND DISPOSED OF.

ONE INCH DIA. HOLES, SIX INCHES DEEP(MIN.), SHALL BE DRILLED AT 15 INCH C/C AS SHOWN ON THE PLANS. THE HOLES SHALL BE THOROUGHLY CLEANED OF ALL DUST AND DELETERIOUS MATERIAL. THE GROUT SHALL CONSIST OF CEMENT AND WATER USING TYPE I, TYPE III OR SHRINKAGE COMPENSATING CEMENT. CLEAN HOLES SHALL BE THOROUGHLY SATURATED WITH WATER FOR A MINIMUM OF 5 MINUTES PRIOR TO PLACING GROUT. IMMEDIATELY PRIOR TO GROUTING, ALL FREE STANDING WATER SHALL BE REMOVED FROM HOLES. AFTER INITIAL MIXING, THINNING OR RETEMPERING OF GROUT WITH EXTRA WATER SHALL NOT BE ALLOWED. HARDENED OR SET GROUT WHICH HAS BECOME TOO STIFF OR DRY TO PROVIDE A GOOD BOND SHALL BE DISCARDED. DOWELS SHALL NOT BE INSTALLED IF THE MEAN AIR OR GROUT TEMPERATURE IS LESS THAN 45 DEGREES F. FURTHERMORE, AFTER PLACING, THE FRESH GROUT SHALL BE MAINTAINED AT A TEMPERATURE OF NOT LESS THAN 45 DEGREES F. FOR 72 HOURS, AND NOT LESS THAN 40 DEGREES F. FOR AN ADDITIONAL 4 DAYS. THE TEMPERATURE OF MIXED GROUT, IMMEDIATELY BEFORE PLACING, SHALL NOT BE LESS THAN 50 DEGREES F. NOR MORE THAN 90 DEGREES F. THE CEMENT GROUT SHALL BE CURED CONTINUOUSLY WITH WET RAGS FOR A MINIMUM PERIOD OF THREE DAYS WITHOUT DISTURBING THE DOWELS. GROUT ANCHORING USING EPOXY POLYESTER/VINYLESTER RESIN MAY BE USED IN LIEU OF THE ABOVE REQUIREMENTS WITH THE EXCEPTION THAT THE DIAMETER OF THE HOLE SHALL BE 1/8" LARGER THAN THE DIAMETER OF THE DOWEL.

ALL LOOSE AND UNSOUND CONCRETE IN THE AREA OF THE PARAPET TO BE FACED SHALL BE REMOVED. ALL REMAINING SOUND CONCRETE ON THE TOP AND ROADWAY SIDE OF THE EXISTING PARAPET SHALL BE MACHINE SCARIFIED 1/4 INCH DEEP. THE MINIMUM THICKNESS OF THE PROPOSED FACING SHALL BE 4 INCHES. ALL REINFORCING STEEL SHALL BE EPOXY COATED AS PER 509. EPOXY COATED REINFORCING STEEL WHICH IS DAMAGED DUE TO CUTTING, BENDING OR FOR ANY OTHER REASON SHALL BE REPAIRED AS PER 509. CONCRETE COVER FOR ALL REINFORCING STEEL SHALL BE 2 INCHES. THE CONCRETE SURFACES TO BE FACED SHALL BE THOROUGHLY DRENCHED WITH CLEAN WATER AND ALLOWED TO DRY TO A DAMP CONDITION JUST BEFORE THE CONCRETE IS PLACED.

THE EXISTING DEFLECTION POINTS SHALL BE EXTENDED COMPLETELY THROUGH THE PROPOSED FACING AND SHALL BE MADE BY FORMING OR SAW CUTTING THE HARDENED CONCRETE WITHIN 3 DAYS AFTER IT IS PLACED. THE 1/4 INCH JOINTS SHALL BE SEALED 3/4 INCH DEEP (MIN.) WITH AN IMPREGNATED, PRECOMPRESSED, EXPANDING FOAM SEALANT TAPE KNOWN AS WILL-SEAL AS MANUFACTURED BY ILLBRUCK/USA INC., MINNEAPOLIS, MINNESOTA: A LOW DENSITY CLOSED CELL, CROSS-LINKED ETHYLENE VINYL ACETATE FOAM KNOWN AS EVAZOTE 50 AS MANUFACTURED BY E-POXY INDUSTRIES, INC., RAVENA, NY OR E.V.A. AS MANUFACTURED BY THERMAL-CHEM INC., ELK GROVE, IL.; OR IMPROVED EQUAL.

DESIGN STRESSES: CONCRETE S - UNIT STRESS 1,500 P.S.I.

REINFORING STEEL ASTM A615, A616 OR A617
GRADE 60 - UNIT STRESS 24,000 P.S.I.
GRADE 40 - UNIT STRESS 20,000 P.S.I.

THIS WORK SHALL INCLUDE THE FURNISHING OF ALL LABOR, EQUIPMENT AND MATERIALS CONSISTING OF CONCRETE, REINFORCING STEEL, JOINT SEALANT, DOWEL HOLES, GROUT AND INCIDENTALS NECESSARY TO ACCOMPLISH THE ABOVE MENTIONED REMOVALS AND WORK TO FACE THE EXISTING PARAPET AND TO PROVIDE NEW PARAPET TRANSITION ENDS. PAYMENT WILL BE MADE AT THE CONTRACT BID PRICE FOR:

ITEM	UNIT	DESCRIPTION
517	LIN.FT.	RAILING, FACED AS PER PLAN

ITEM 622 CONCRETE BARRIER, TYPE D-50, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF CONSTRUCTING A TYPE D-50 CONCRETE BARRIER.
THE BARRIER SHALL MEET THE REQUIREMENT OF THE TYPE D SHOWN ON STD. DRAWING MC-9.3 EXCEPT THAT THE BARRIER SHALL BE 50 INCHES HIGH AND THE THE TOP 18" SHALL CONSIST OF A VERTICAL SECTION. THE BACKSIDE (NOT FACING TRAFFIC) OF THE BARRIER SHALL BE VERTICAL, WITH NO SAFETY SHAPE. THE FOOTER SHALL EXTEND 6" HORIZONTALLY FROM THE VERTICAL BACKSIDE OF THE BARRIER.
IN CERTAIN AREAS AS SHOWN ON PAGE 6 THIS 6" EXTENED FOOTER WILL BE NONPERFORMED TO ACCOMMODATE OBSTACLES.
FOR ADDITIONAL INFORMATION REFER TO DETAIL A-A ON PAGE 9/10.
PAYMENT FOR THE ABOVE SHALL BE INCLUDED UNDER ITEM 622 CONCRETE BARRIER, TYPE D-50, AS PER PLAN

ITEM 802 BARRIER REFLECTOR, TYPE B

THE CONTRACTOR SHALL INSTALL BARRIER REFLECTORS ON THE 50" BARRIER.
THESE REFLECTORS SHALL BE SPACED AT 100' C/C.

PAYMENT FOR THE ABOVE SHALL BE INCLUDED UNDER ITEM 802 BARRIER REFLECTOR, TYPE B.

A QUANTITY OF 17 HAS BEEN CARRIED TO THE SUB SUMMARY FOR ITEM 802 BARRIER REFLECTOR, TYPE B

ITEM SPECIAL - VANDAL PROTECTION FENCE 60", ~~AS PER PLAN~~

THIS ITEM SHALL INCLUDE FURNISHING ALL MATERIALS, LABOR, EQUIPMENT AND INCIDENTALS NECESSARY TO INSTALL VANDAL PROTECTION FENCE ON THE CONCRETE BARRIER.

THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH ITEMS 517 AND 607 OF THE SPECIFICATION AND STANDARD DRAWING NO. VPF-1-90 DATED 3-24-93 EXCEPT WHERE MODIFIED HEREIN:

1) EXPANSION SLEEVES SHALL BE INSTALLED IN THE LINE RAILS AND THE TOP RAIL AT EVERY EXPANSION JOINT IN THE BARRIER, AND AT 100 FT. INTERVALS IN THE TOP RAIL

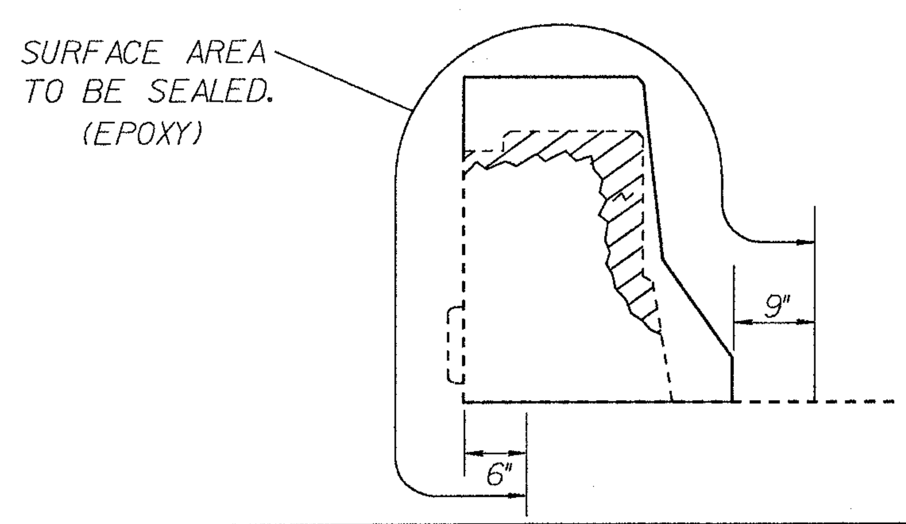
2) ANY CONCRETE THAT IS SPALLED OR OTHERWISE DAMAGED BY THE INSTALLATION OF VANDAL FENCE SHALL BE REPAIRED BY PATCHING WITH A TROWELABLE EPOXY MORTAR. THE PATCHING SHALL BE PERFORMED AT THE DIRECTION OF THE PROJECT ENGINEER AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

3) FENCE POSTS, BASE PLATES, FENCE ANCHORS, RAILS, SLEEVES, FENCE FABRIC STRETCHER BARS, TENSION BANDS, TRUSS RODS, TIES AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH 711.02 AND SHALL RECEIVE A BONDED POLYVINYL CHLORIDE COATING. THE COLOR OF THE POLYVINYL CHLORIDE COATING SHALL BE A DARK GREEN

THE STAINLESS STEEL CLOSURE PLATE SHALL ALSO BE COATED WITH GREEN POLYVINYL CHLORIDE.

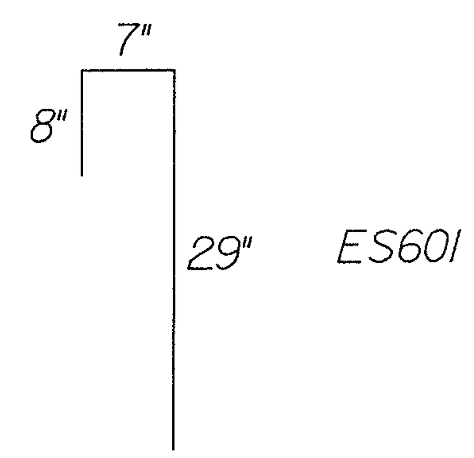
ITEM SPECIAL: SEALING OF CONCRETE SURFACES (EPOXY)

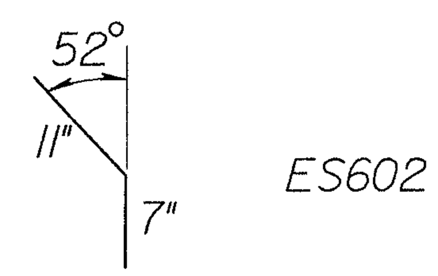
THIS ITEM OF WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROPOSAL AND SHALL BE APPLIED TO THE SURFACE AREAS OF EXISTING AND RETROFITTED PARAPETS AS DETAILED BELOW.
AN ESTIMATED QUANTITY OF 15 SQ.YDS. HAS BE CARRIED TO THE SUB SUMMARY FOR THIS PURPOSE.



BAR	LENGTH	SHAPE	# OF BARS
ES501	7'-6"	STRAIGHT	10
ES601	3'-8"	BENT	14
ES602	1'-6"	BENT	14

FOR INFORMATION ONLY
STEEL PAID FOR UNDER ITEM
517 RAILING, FACED, AS PER PLAN





CONNECTIONS BETWEEN EXISTING AND PROPOSED GUARDRAIL

WHEN IT IS NECESSARY TO SPLICE PROPOSED GUARDRAIL TO EXISTING GUARDRAIL, ONLY THE EXISTING GUARDRAIL SHALL BE CUT, DRILLED, OR PUNCHED. THE CONNECTION SHALL BE MADE USING A "BEAM RAIL SPLICE" AS SHOWN ON STANDARD DRAWING GR-1. PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE RESPECTIVE GUARDRAIL RUNS.

CALC. BY: JDM DATE: 9/7/94	FHWA REGION	STATE	PROJECT	
CHKD. BY: JBB DATE: 10/1/94	5	OHIO		

350/401

HAM-71-1.30/9.00

RTMS

MAINTENANCE OF TRAFFIC

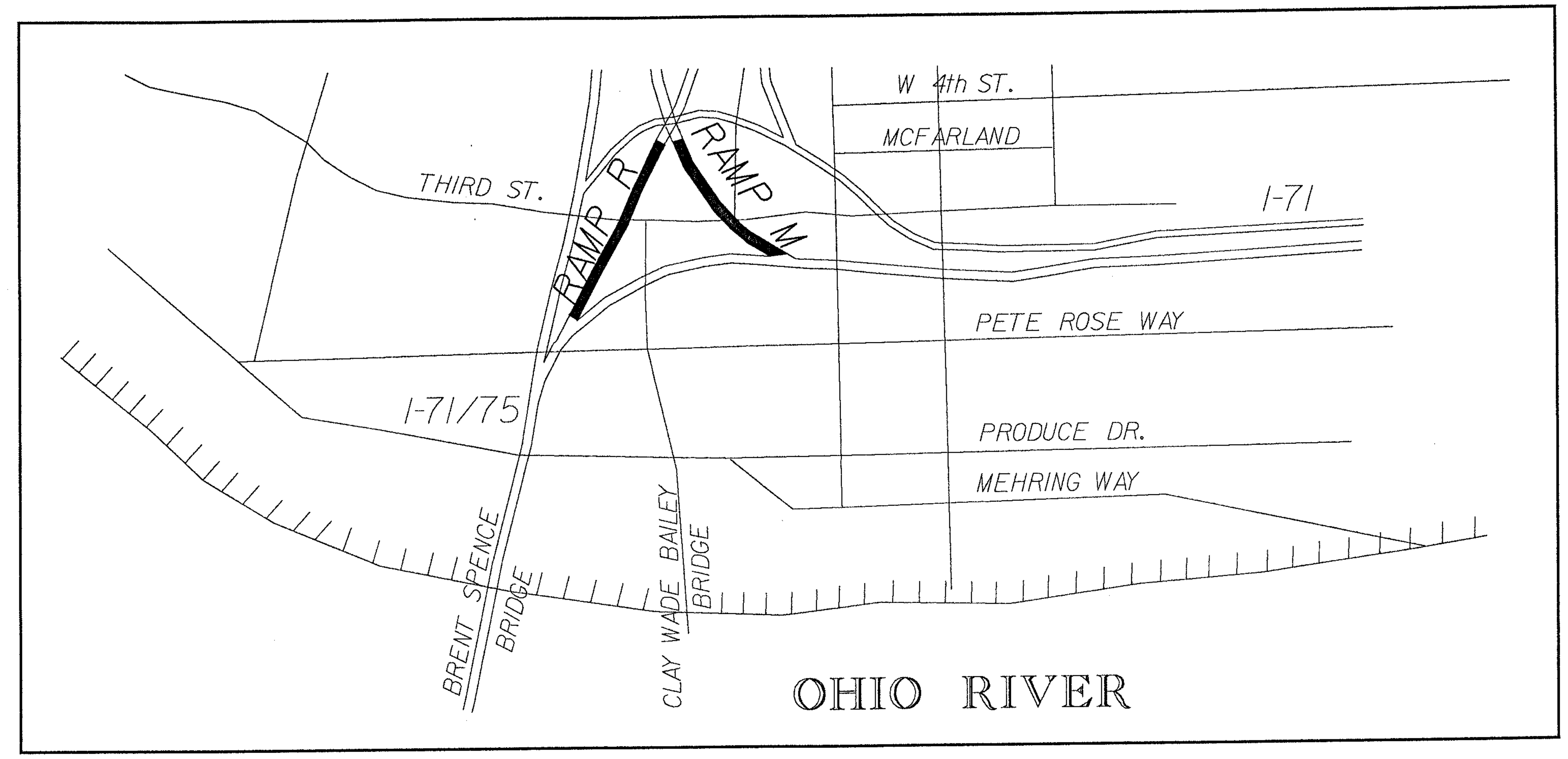
IT IS THE INTENTION TO PERFORM THE REQUIRED WORK WITH THE LEAST INCONVENCE TO, AND THE MAXIMUM SAFTEY OF, THE CONTRACTOR AND THE TRAVELING PUBLIC. ANY DEVIATION FROM THESE MAINTENANCE OF TRAFFIC NOTES OR SEQUENCE OF OPERATIONS MUST BE APPROVED, IN ADVANCE, IN WRITING BY THE DIRECTOR.

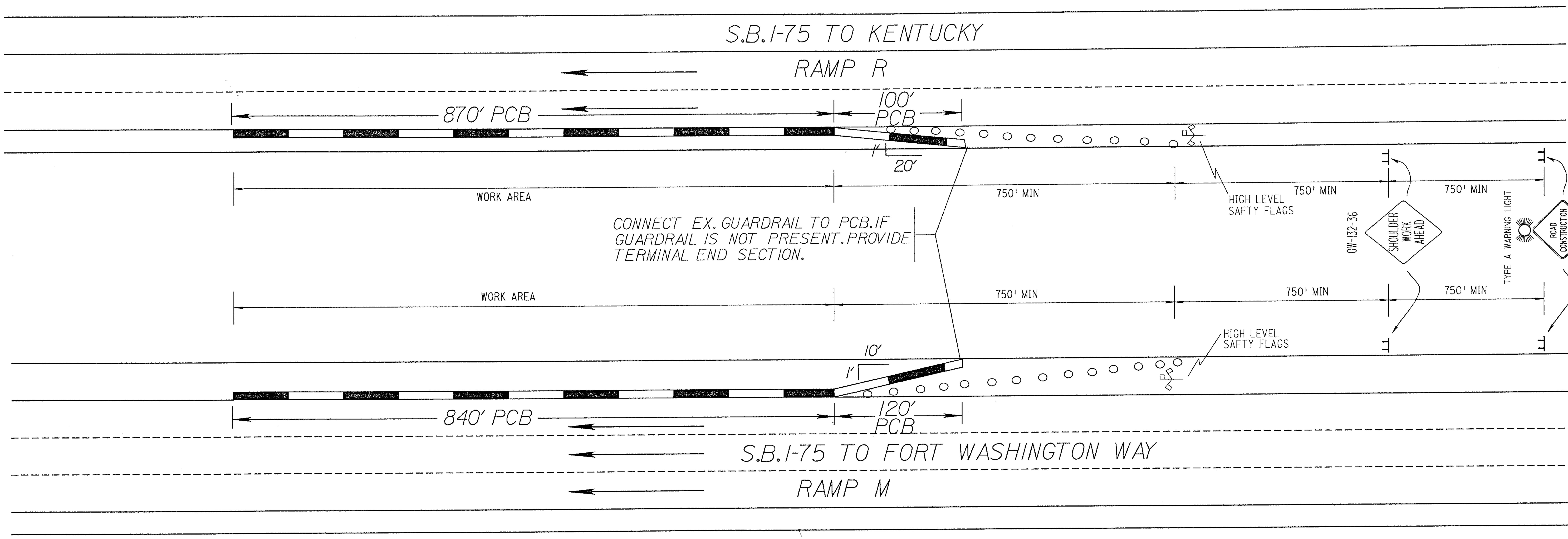
THE PAVED SHOULDERS WILL BE CLOSED WHILE THE CONTRACTOR IS WORKING ON THE WALL/FENCE AS DETAILED BELOW. THIS WILL BE PERFORMED BY THE USE OF PORTABLE CONCRETE BARRIER, 32". THE EXISTING GUARDRAIL SHALL NOT BE REMOVED UNTIL THE PORTABLE CONCRETE BARRIER, 32" IS IN PLACE. AT NO TIME WILL ANY LANES BE CLOSED FOR ANY REASON.
THIS INCLUDES ANY PORTION OF THE LANE ALONG THE PORTABLE CONCRETE BARRIER.

THE CONTRACTOR WILL BE REQUIRED TO SUPPLEMENT THE PORTABLE CONCRETE BARRIER, 32" WITH TEMPORARY BARRIER REFLECTORS, TYPE B. THE REFLECTORS SHALL MEET THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 802. SPACING SHALL BE 25'.

ALSO, THE CONTRACTOR WILL BE REQUIRED TO SUPPLEMENT THE PORTABLE CONCRETE BARRIER, 32 WITH OBJECT MARKERS. THE MARKERS WILL BE LOCATED MIDWAY BETWEEN THE TEMPORARY BARRIER REFLECTOR.

SPACING FOR BARRELS SHALL BE 20' C/C.





CALCULATED JDM CHECKED JBB

MAINTENANCE OF TRAFFIC (BARRIER WALL)

HAM-71-1.30/9.00

4/10

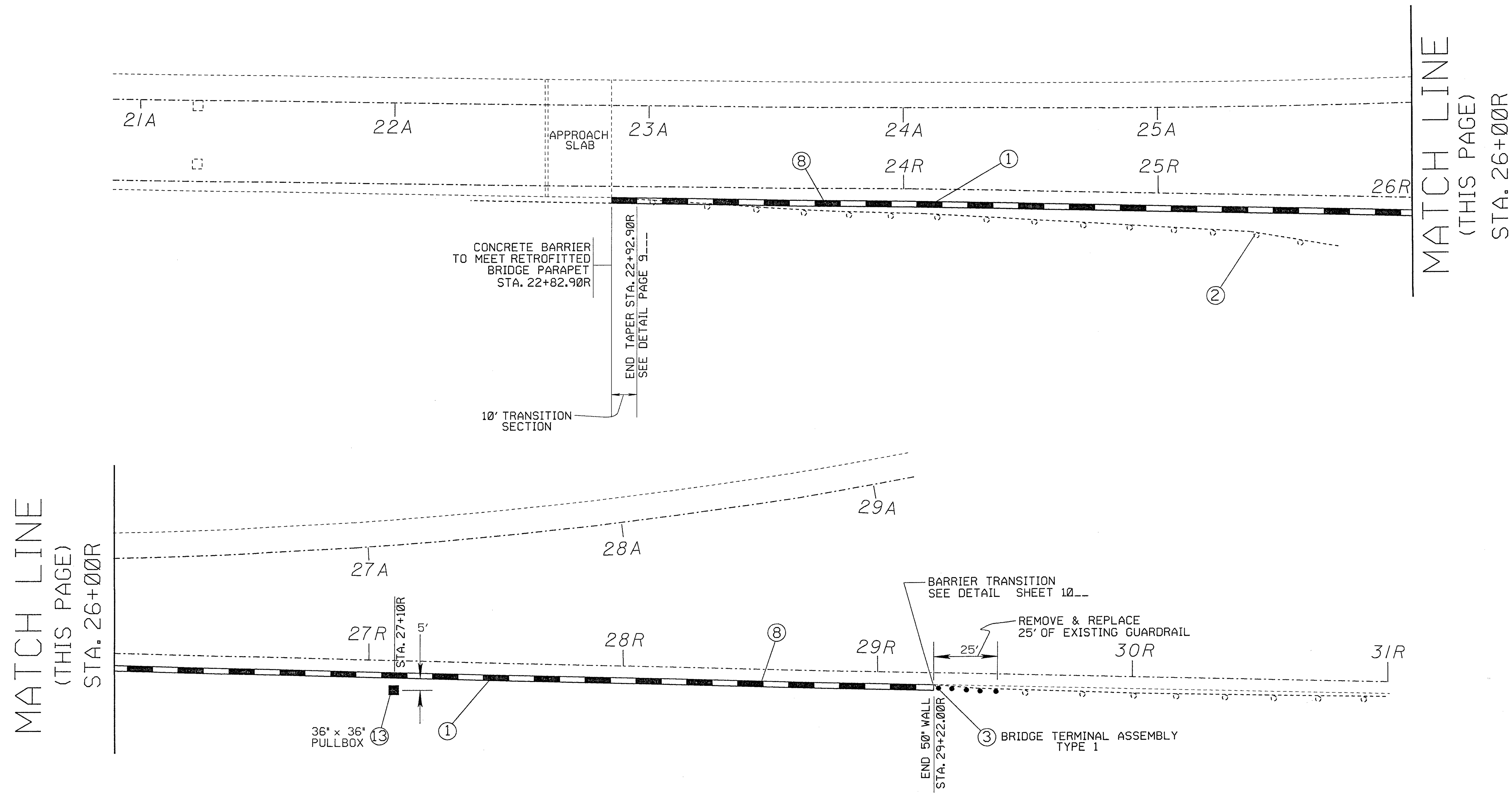
CALC. BY: JDM DATE: 9/7/94	FHWA REGION	STATE	PROJECT
CHKD. BY: JBB DATE: 10/1/94	5	OHIO	

135E / 401

HAM-71-1.30/9.00

FOR QUANTITIES
SEE SHEET 7/10

RAMP R



N

0 20 40 HORIZONTAL SCALE IN FEET

CALCULATED J.D.M.
CHECKED J.B.B.

PLAN SHEET (BARRIER WALL)

HAM-71-1.30/9.00

5/10


RAMP M
FOR QUANTITIES SEE SHEET 7/10
CALC. BY: JDM DATE: 9/7/94
CHKD. BY: JBB DATE: 10/1/94
FHWA REGION 5
STATE OHIO
PROJECT
135E 40L
HAM-71-1.30/9.00
BACK 6" OF FOOTER NONPERFORMED AROUND LIGHT/SIGN FOUNDATION
EXISTING PIERS
OVERHEAD SIGN FOUNDATION
STA. 28+83
BEGIN TRANSITION STA. 28+72
STA. 29+15
STA. 29+26
1'-4"
MATCH LINE Sta. 29+40 (THIS PAGE)
BACK 6" OF FOOTER NONPERFORMED AROUND SIGN FOUNDATION
10' TRANSITITION SECTION
END TAPER STA. 24+92M SEE DETAIL SHEET 9
BEGIN TRANSITION 25+19M
25+42M
7"
END TRANSITION 25+65M
25M
26M
27M
27M
28M
29M
BACK 6" OF FOOTER NONPERFORMED AROUND PULLBOX
CONCRETE BARRIER TO MEET RETROFITTED BRIDGE PARAPET STA. 24+82M
APROACH SLAB
AREA OF CONCRETE APRON TO BE REMOVED 1'-4" x 11'=14.63 SQ. FT.
SAW CUT PAYMENT TO BE INCLUDED WITH PAVEMENT REMOVED
11'
1'-4"
MATCH LINE Sta. 29+40 (THIS PAGE)
36" x 36" PULLBOX
5'
BRIDGE TERMINAL ASSEMBLY, TYPE 1
END 50" WALL STA. 32+65M
BARRIER TRANSITION SEE DETAIL SHEET 10
END TRANSITION 29+80M
STA. 31+20M
30M
31M
32M
33M
25'
REMOVE & REPLACE 25' OF EXISTING GUARDRAIL
HORIZONTAL SCALE IN FEET
0 20 40
CALCULATED J.D.M.
CHECKED J.B.B.
PLAN SHEET (BARRIER WALL)
HAM-71-1.30/9.00
6 / 10

CALC. BY: JDM DATE: 9/23/94	FHWA REGION	STATE	PROJECT	
CHKD. BY: JBB DATE: 10/1/94	5	OHIO		

HAM-71-1.30/9.00

1356 / 401

REF NO.	SHEET NO.	STATION TO STATION	202 GUARDRAIL REMOVED LIN.FT.		202 CURB REMOVED LIN.FT.		202 PAVEMENT REMOVED SQ.YD.	517 RAILING, FACED AS PER PLAN (32") LIN.FT.	606 GUARDRAIL TYPE 5 LIN.FT.	606 BRIDGE TERMINAL ASSEMBLY TYPE 1 EACH	614 OBJECT MARKERS EACH	614 BARRIER REFLECTORS TYPE B EACH	622 PORTABLE CONCRETE BARRIER 32" LIN.FT.	622 CONCRETE BARRIER TYPE D-50 AS PER PLAN LIN.FT.	625 PULLBOX 713.08, 36" AS PER PLAN EACH	SPECIAL VANDAL PROTECTION FENCE, 60" AS PER PLAN LIN.FT.	802 BARRIER REFLECTORS TYPE B EACH	SPECIAL SEALING CONCRETE SURFACE (EPOXY) SQ.YD.	
1	5	STA.22+82.90R TO STA.29+22R												639					
2	5	STA.22+82.90R TO STA.25+70R	287																
3	5	STA.29+22R TO STA.29+47R	25						25	1									
4	6	STA.24+82M TO STA.32+65M												783					
5	6	STA.24+82M TO STA.32+90M	783																
6	6	STA.32+65M TO STA.32+90M	25						25	1									
7	6	STA.29+15M TO STA.29+26M					2												
8	5	STA.22+92R TO STA.29+00R														608			
9	6	STA.27+50M TO STA.32+40M														490			
10	6	STA.24+82M TO STA.32+65M			783														
11	5	STA.22+74.90M TO STA.22+82.90M						8											
12	6	STA.24+76M TO STA.24+82M						8											
13	5	STA.27+10R													1				
14	6	STA.31+30M													1				
15	3	RAMP R & RAMP M															17		
	3	STA.22+74.90R TO STA.22+82.90R																7.5	
	3	STA.24+74M TO STA.24+82M																7.5	
	4	STA.22+80R TO STA.30+50R									31	31	770						
	4	STA.24+80M TO STA.34+40M									40	40	960						
TOTALS CARRIED TO SURVEILANCE GENERAL SUMMARY			1120		783		2	16	50	2	71	71	1730	1422	2	1098	17	15	

SUB-SUMMARY (BARRIER WALL)

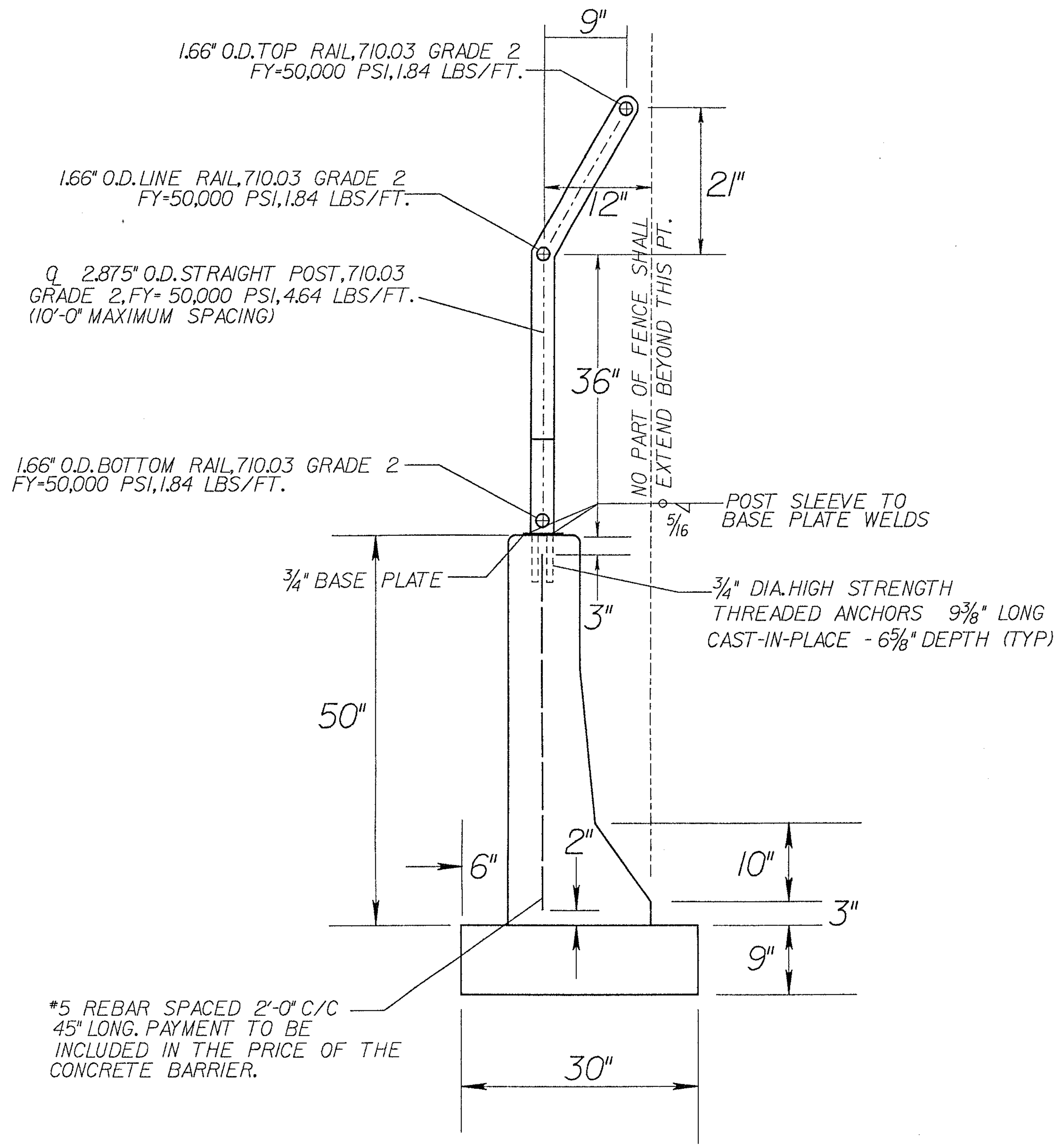
HAM-71-1.30/9.00

CALC. BY: JDM DATE: 9/5/94	FHWA REGION	STATE	PROJECT	
CHKD. BY: JBB DATE: 10/1/94	5	OHIO		

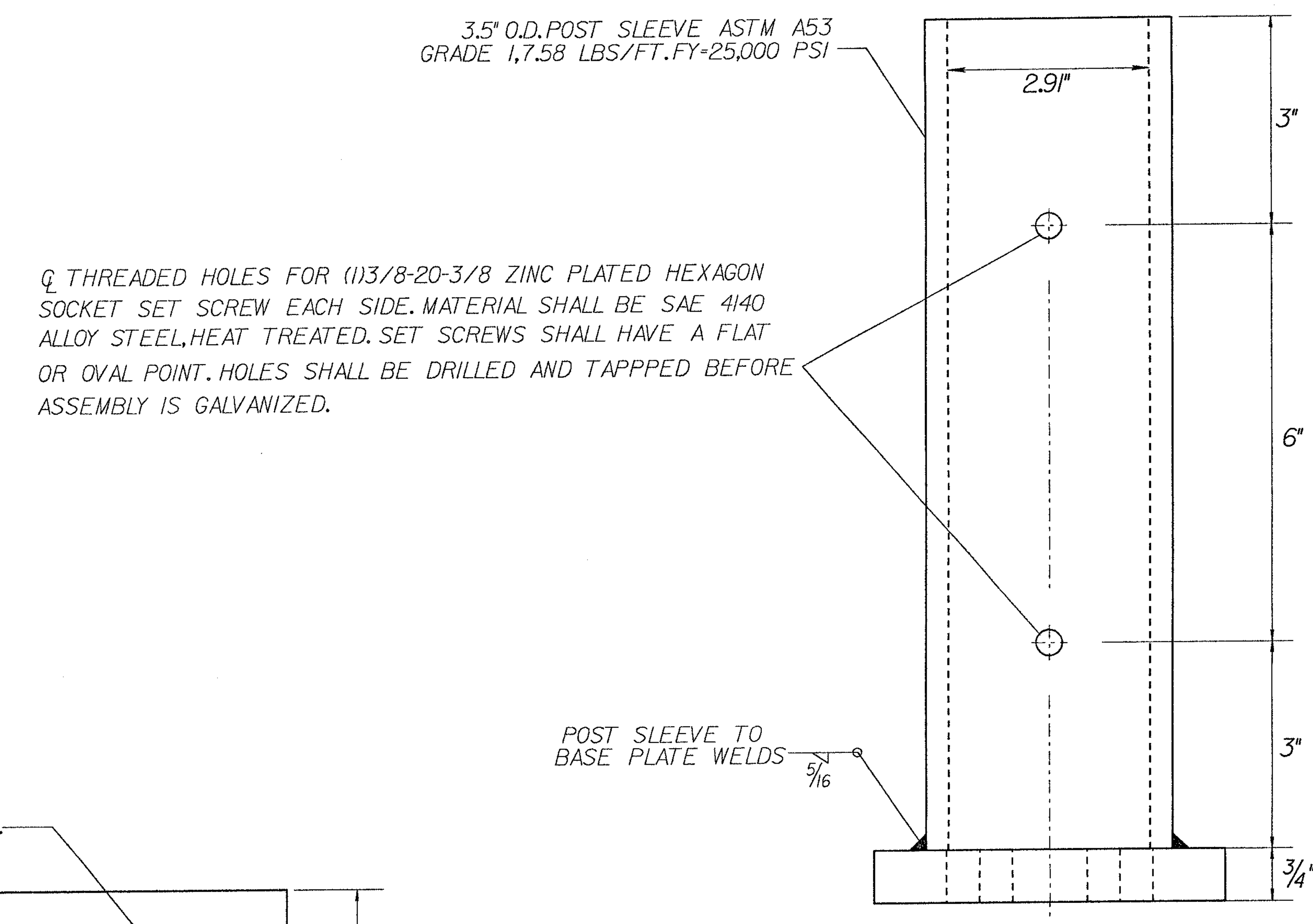
135H / 401

HAM-71-1.30/9.00

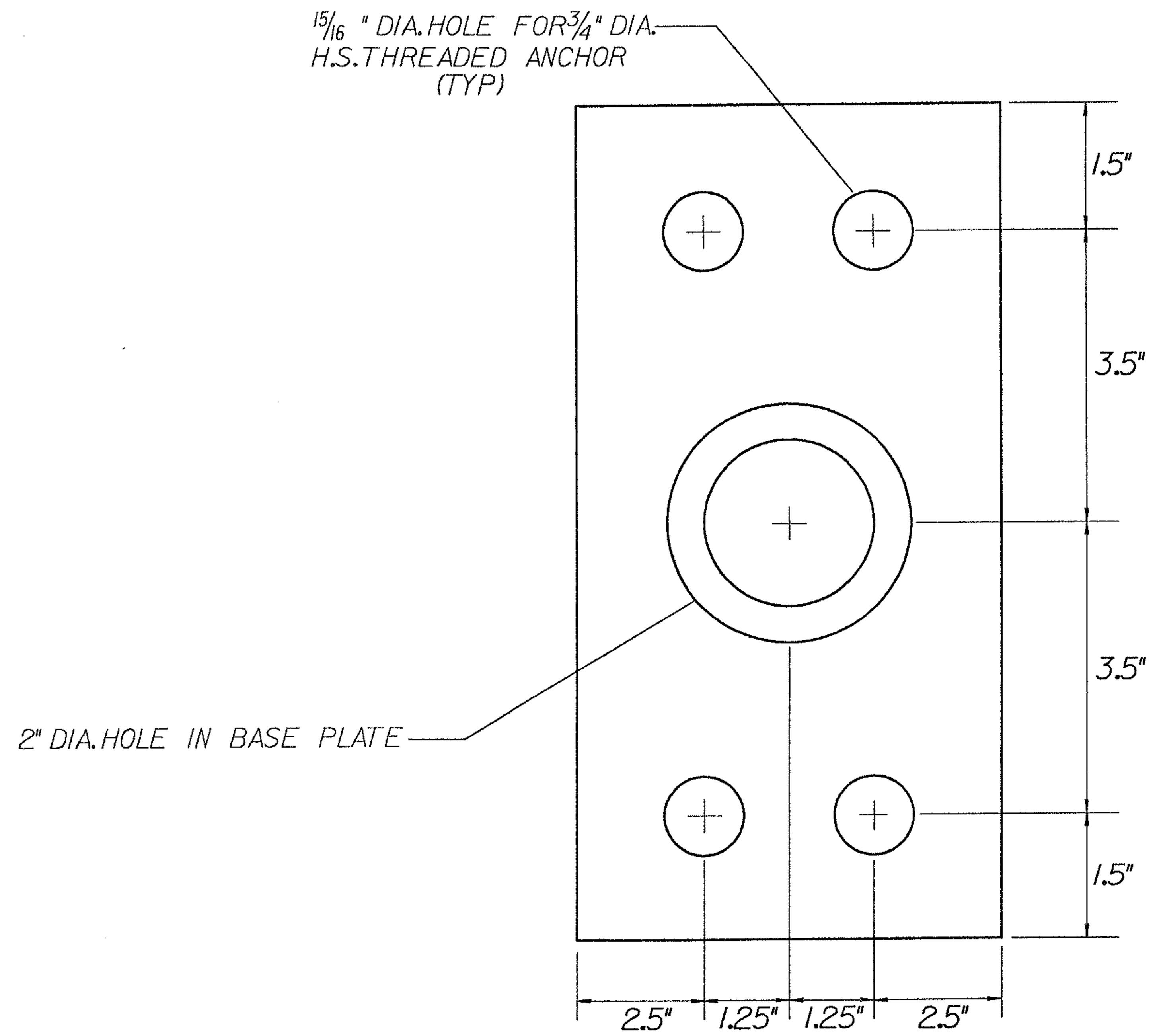
CALCULATED JDM CHECKED JBB



FOR MORE INFORMATION REFER TO STANDARD DRAWING VPF-1-90 SHEETS 1-6.



POST SLEEVE ELEVATION



BASE PLATE PLAN

FENCE DETAIL (BARRIER WALLS)

HAM-71-1.30/9.00

8 / 10

CALC. BY: JDM DATE: 9/5/94	FHWA REGION	STATE	PROJECT	
CHKD. BY: JBB DATE: 10/1/94	5	OHIO		

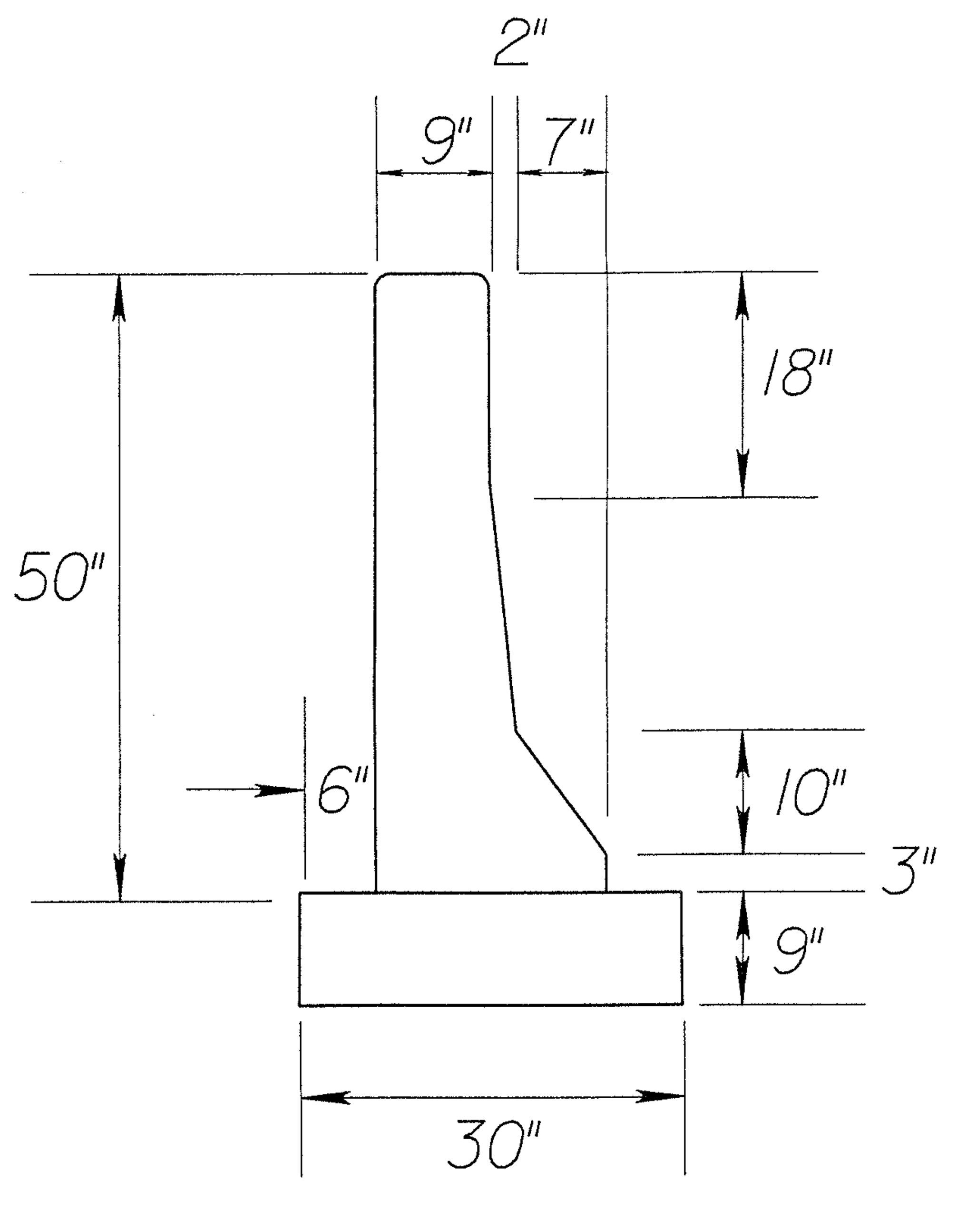
HAM-71-1.30/9.00

BARRIER DETAIL

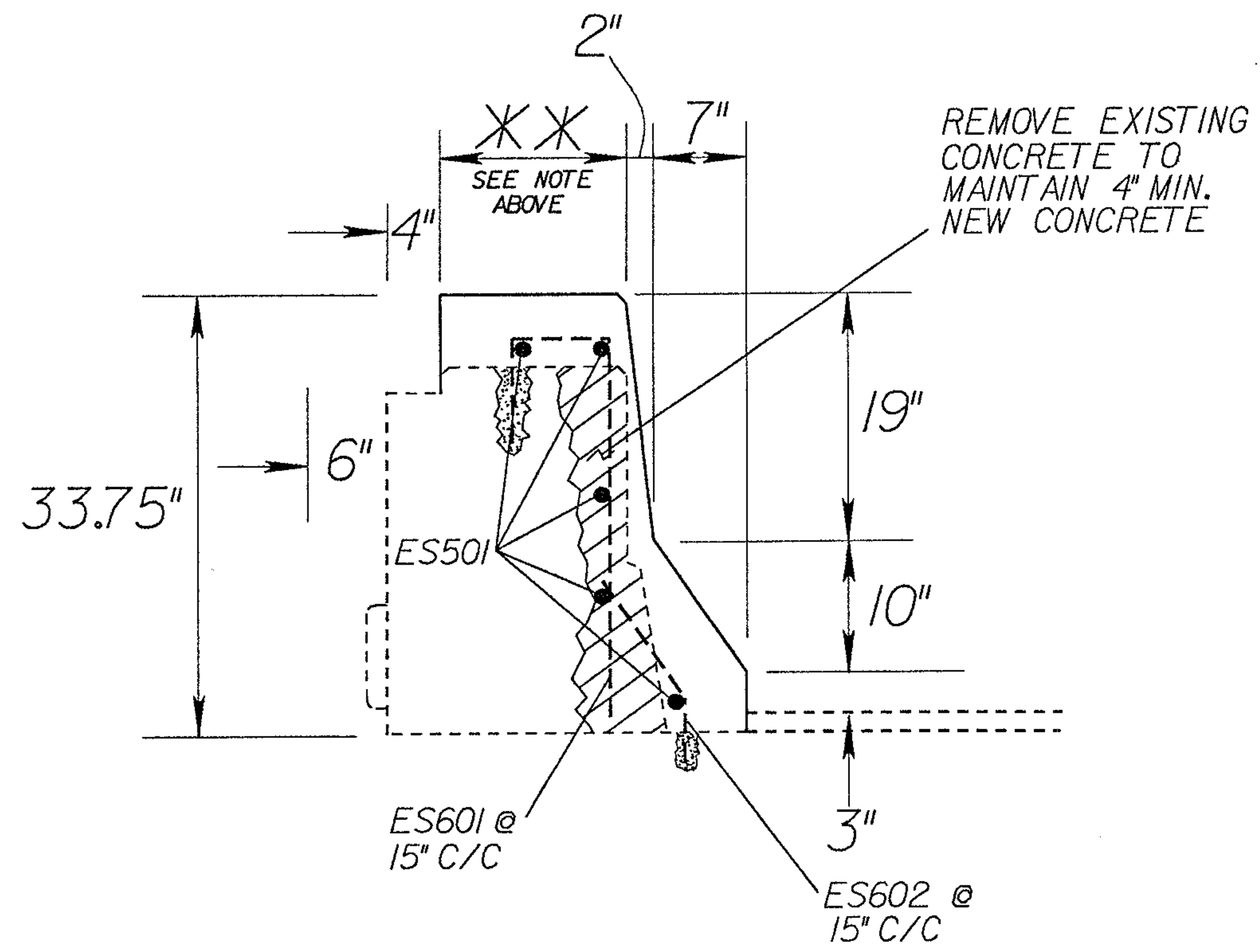
SEE SHEET 3/10 FOR STEEL QUANTITIES

** — RAMP R (9")
RAMP M (VARIES 9"-14")

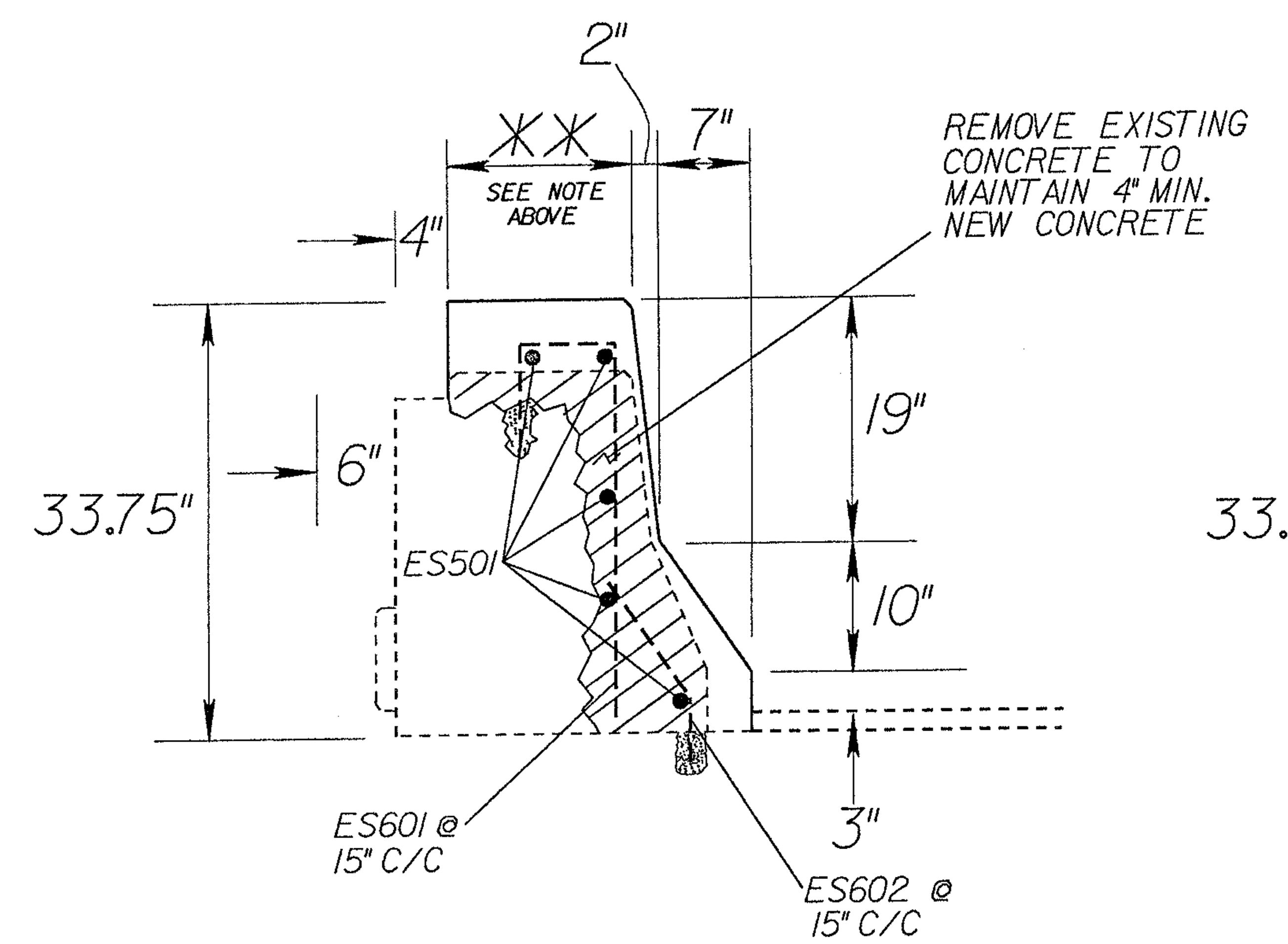
— RAMP R (9")
RAMP M (14")



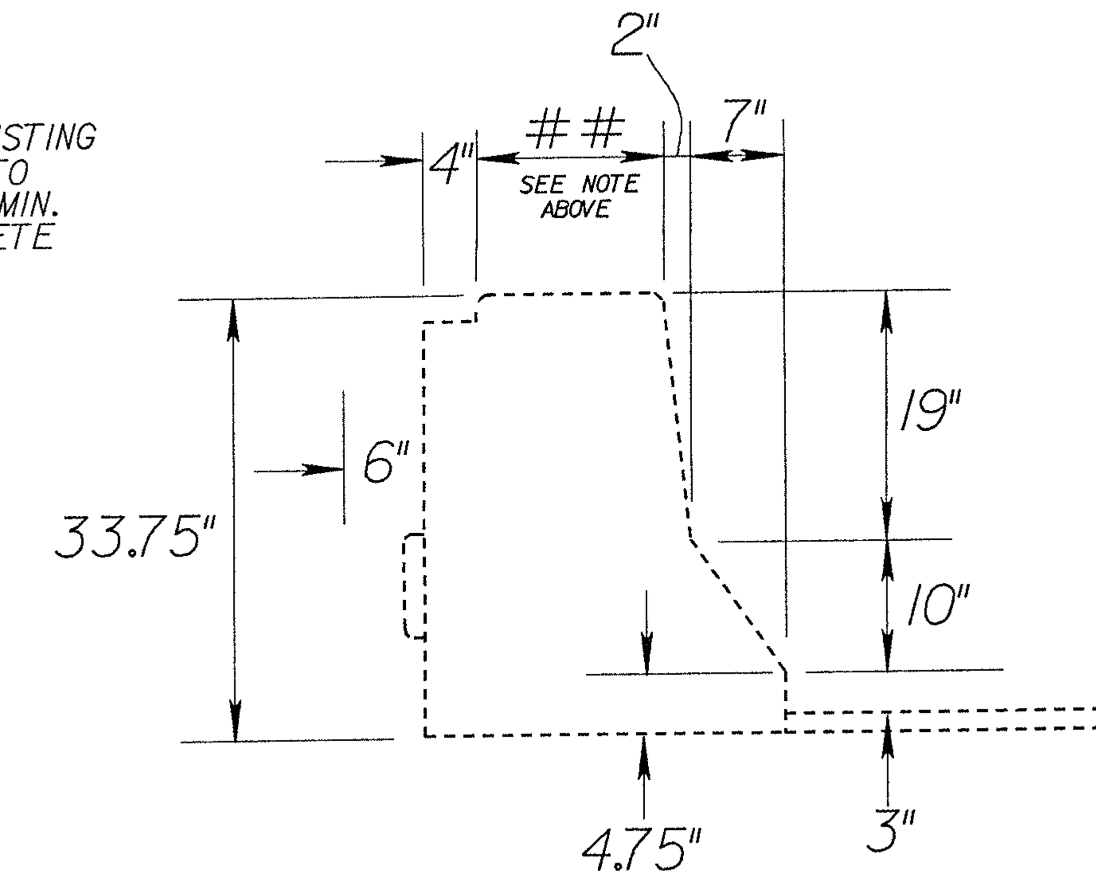
SECTION A-A



SECTION B-B

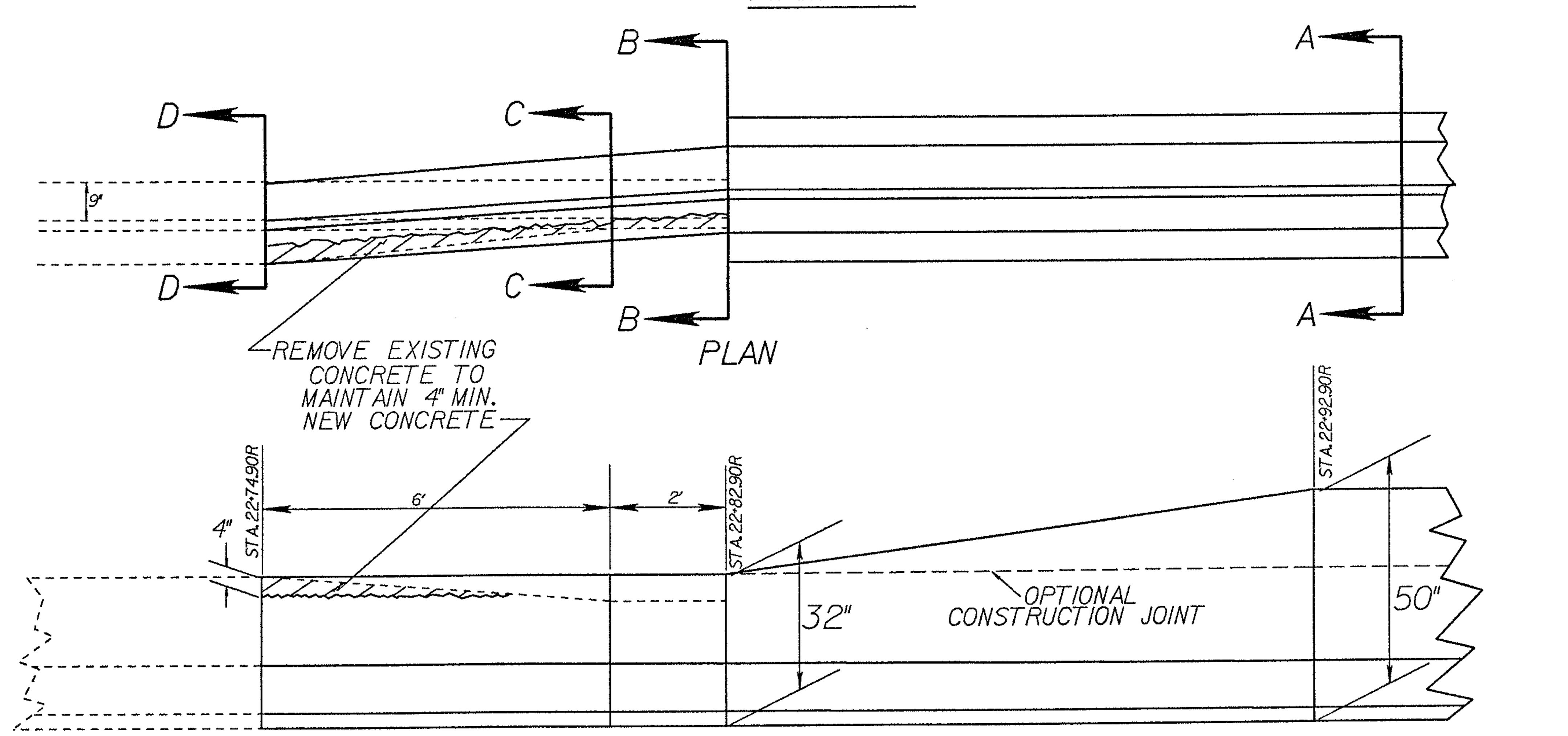


SECTION C-C



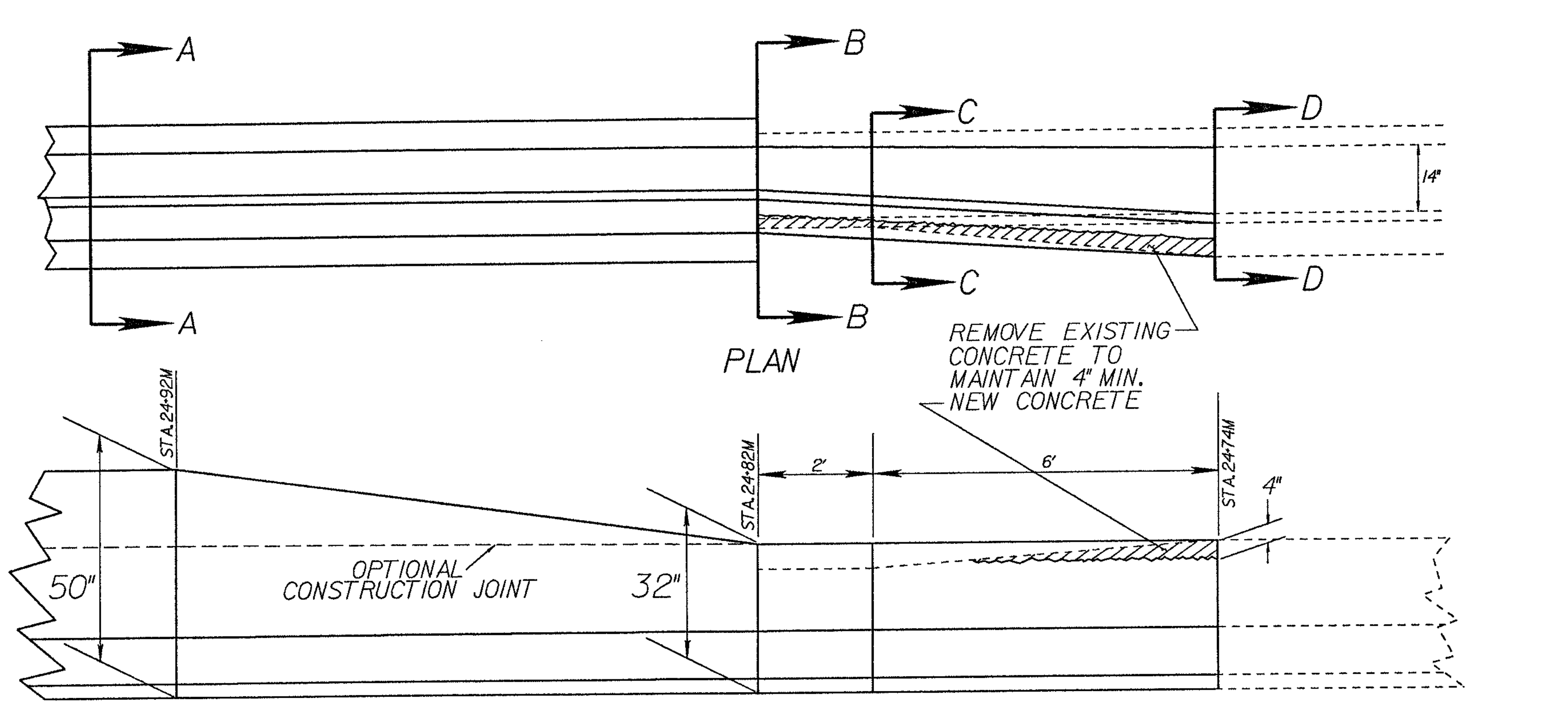
SECTION D-D

RAMP R



ELEVATION

RAMP M



ELEVATION

CALCULATED JDM
CHECKED JBB

BARRIER DETAIL (BARRIER WALL)

HAM-71-1.30/9.00

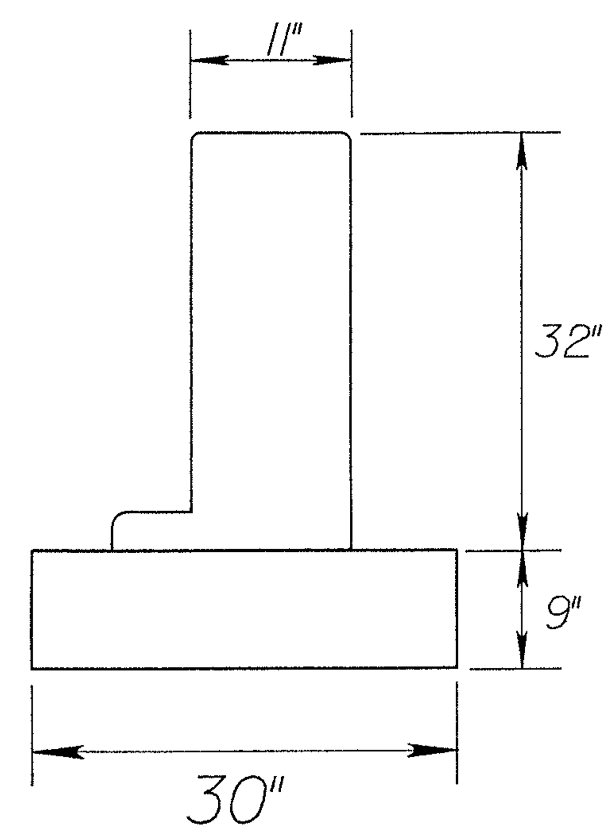
BARRIER DETAIL

CALC. BY: JDM DATE: 9/16/94	FHWA REGION	STATE	PROJECT	
CHKD. BY: JBB DATE: 10/1/94	5	OHIO		

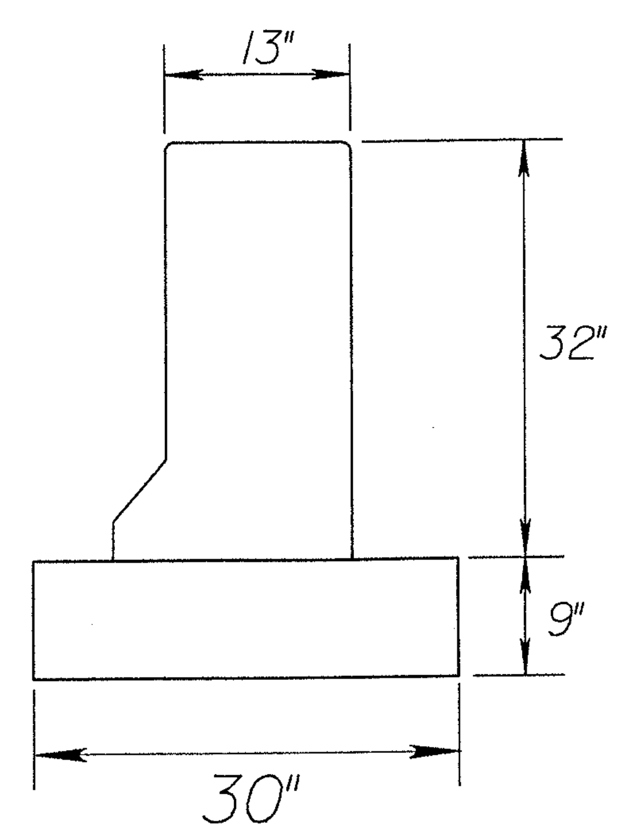
135J/401

HAM-71-1.30/9.00

SEE STANDARD DRAWING GR.-3.1 FOR RAILING DETAIL.

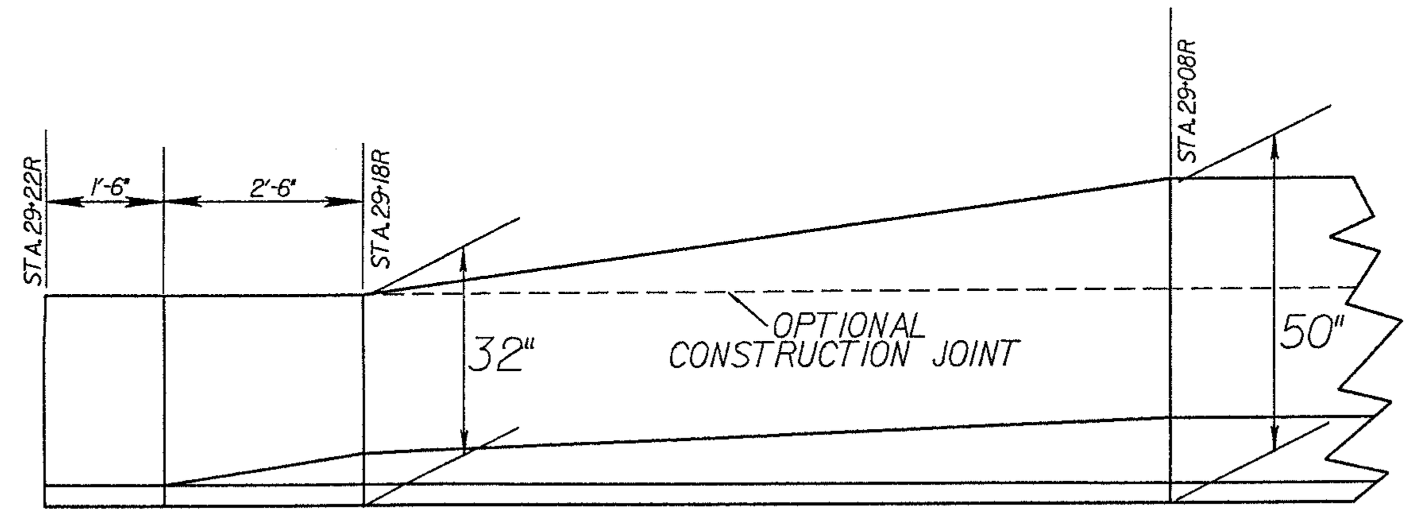


SECTION A

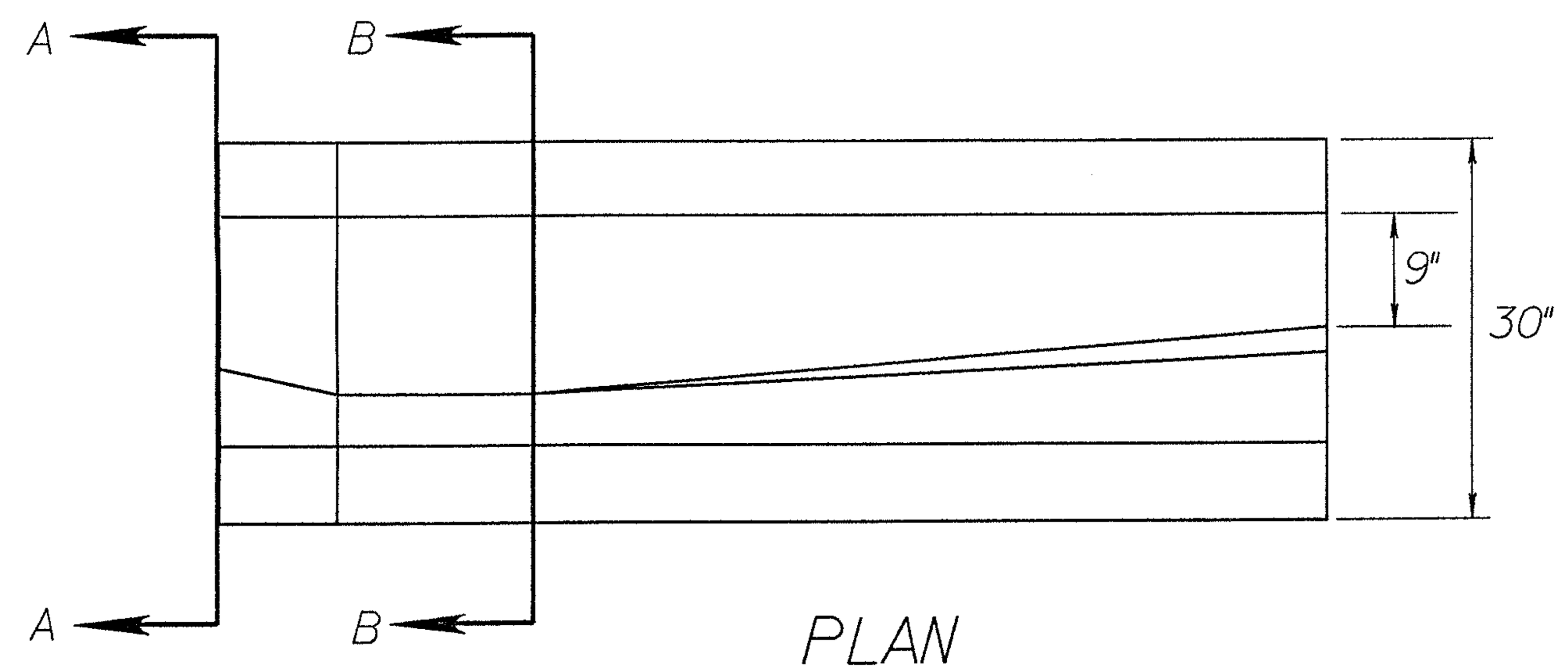


SECTION B

RAMP R

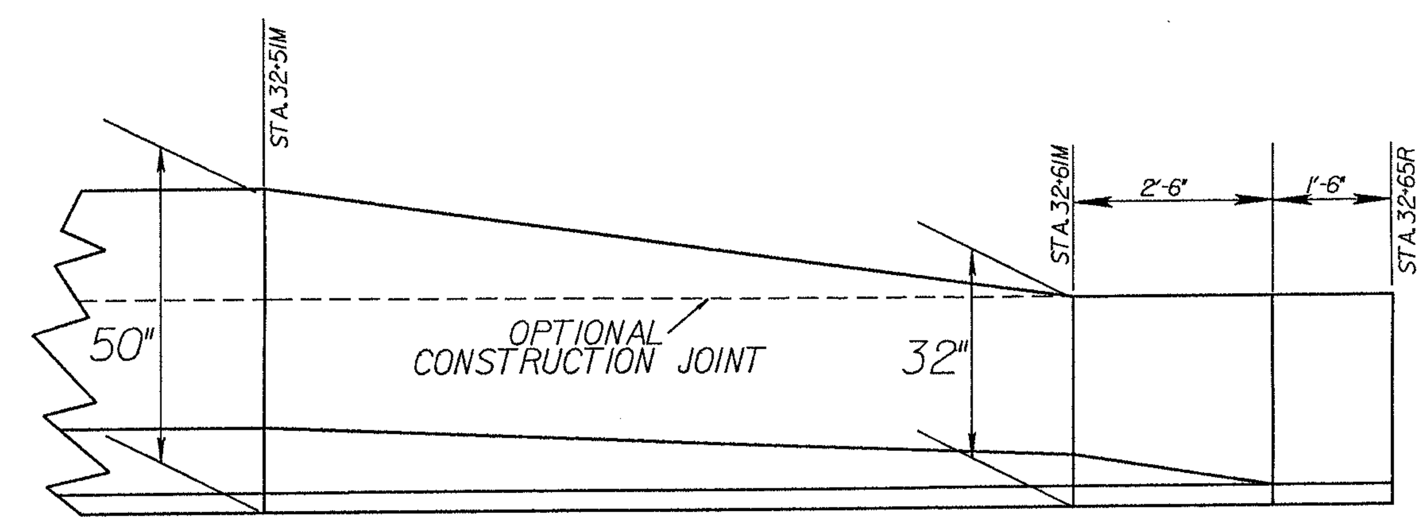


ELEVATION

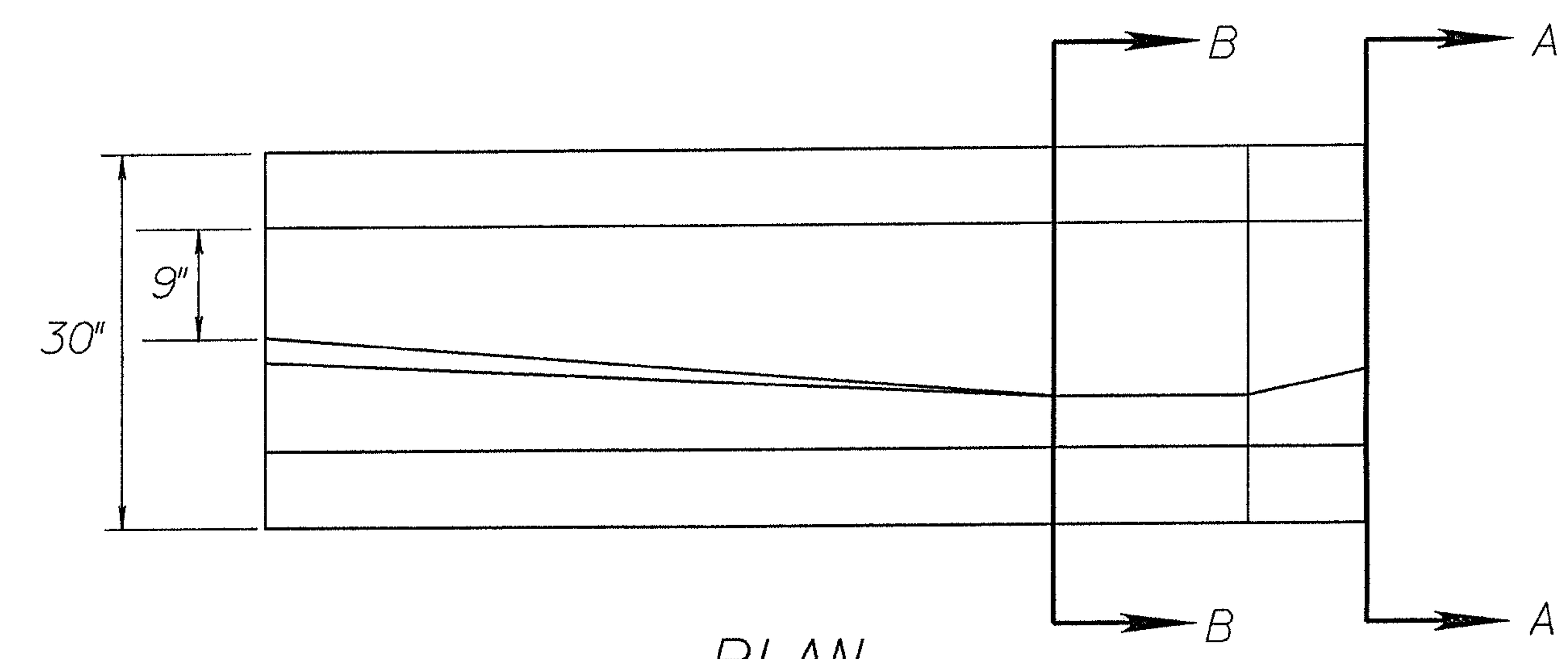


PLAN

RAMP M



ELEVATION



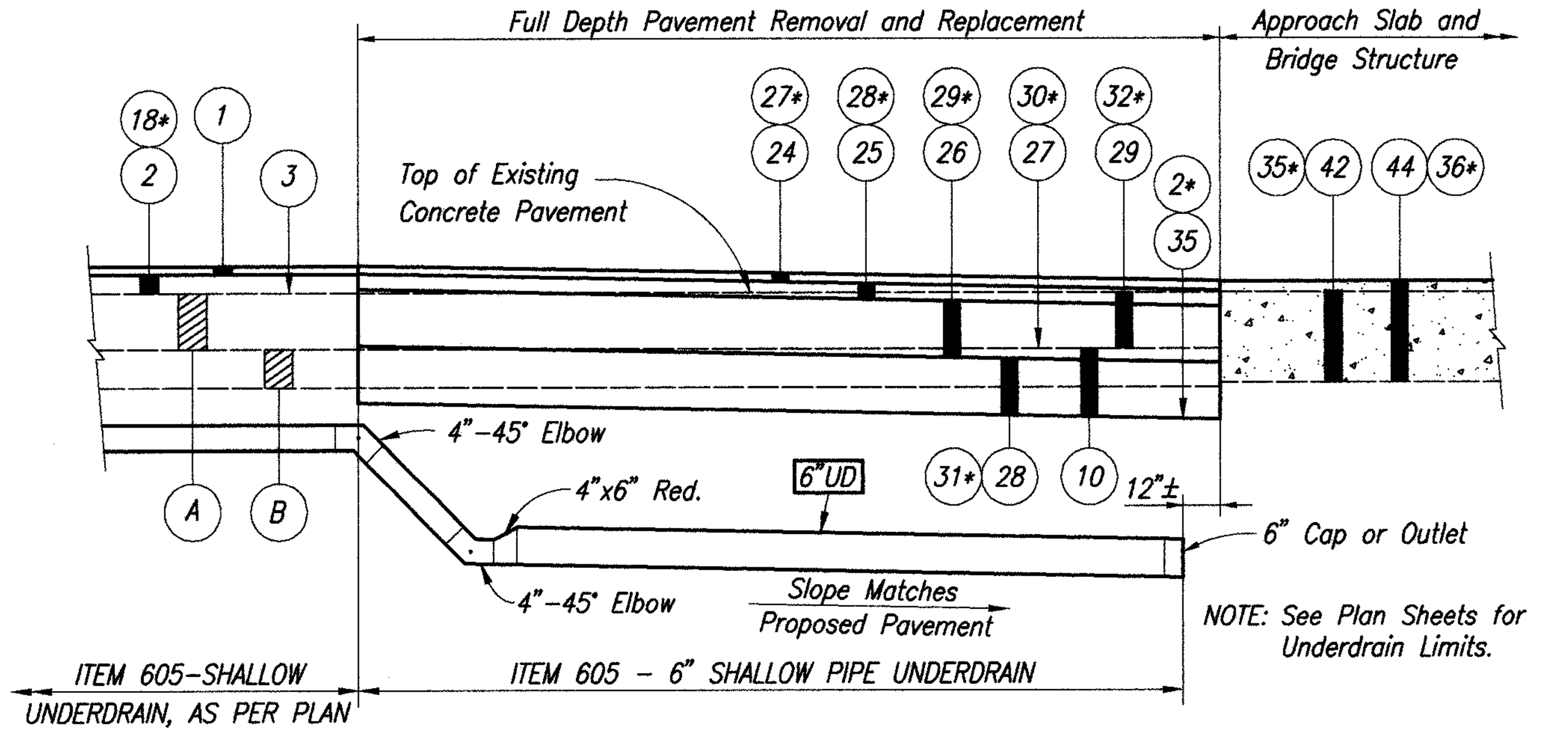
PLAN

CALCULATED JDM CHECKED JBB

BARRIER DETAIL (BARRIER WALL)

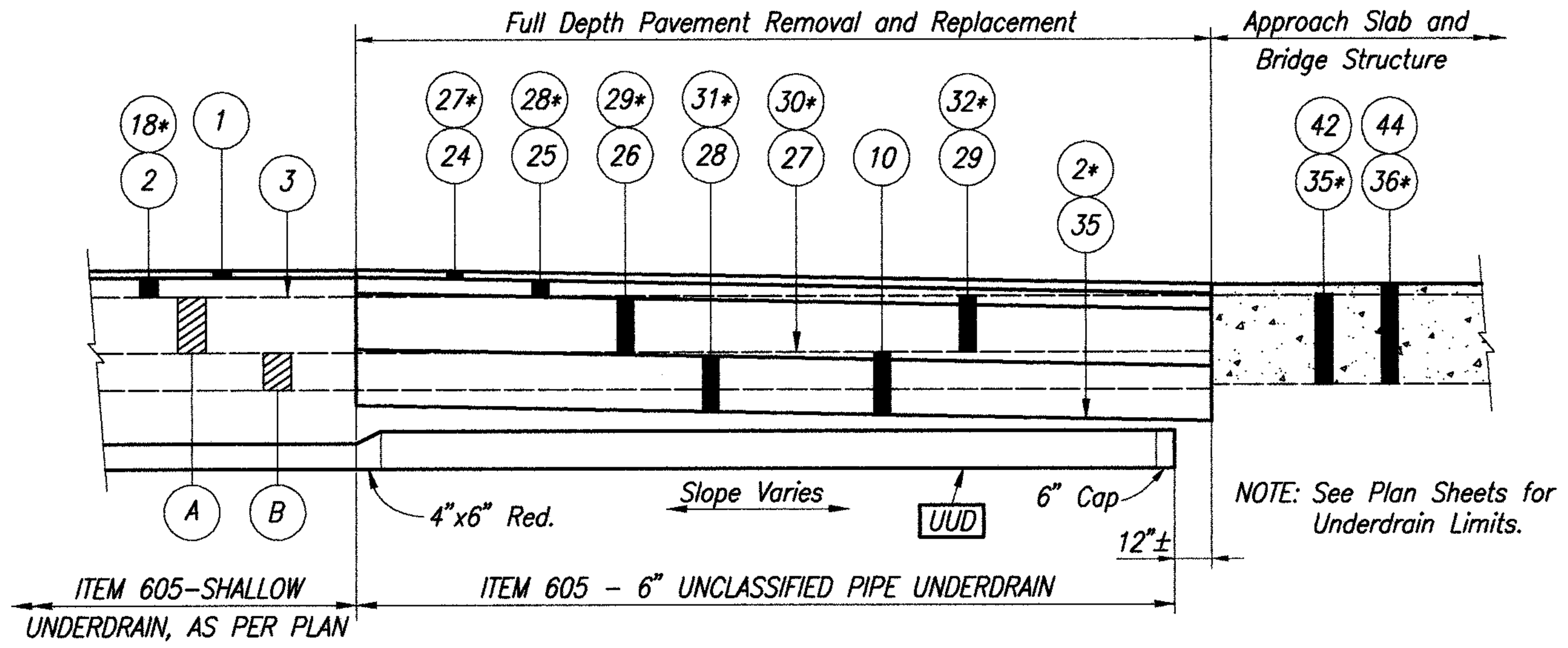
HAM-71-1.30/9.00

10/10



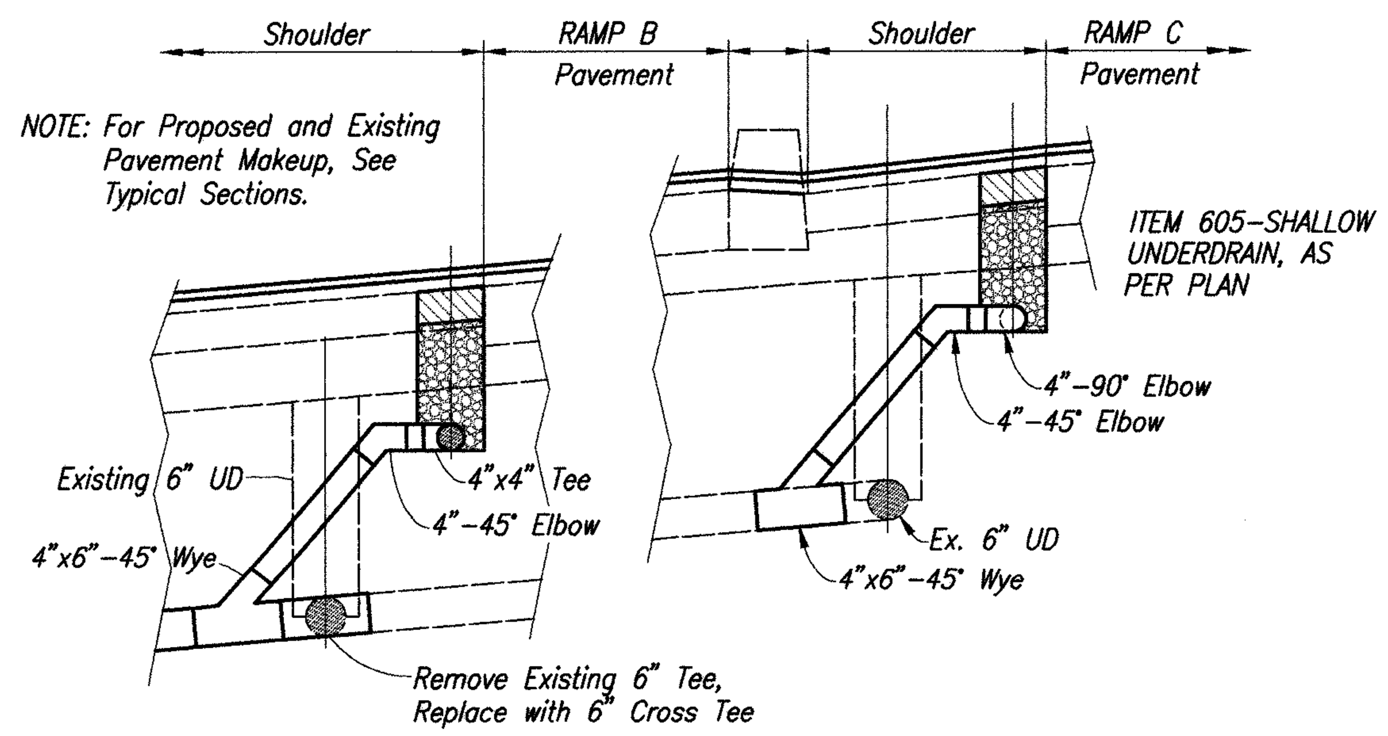
ITEM 605 - 6" SHALLOW PIPE UNDERDRAIN

NOT TO SCALE



ITEM 605 - 6" UNCLASSIFIED PIPE UNDERDRAIN

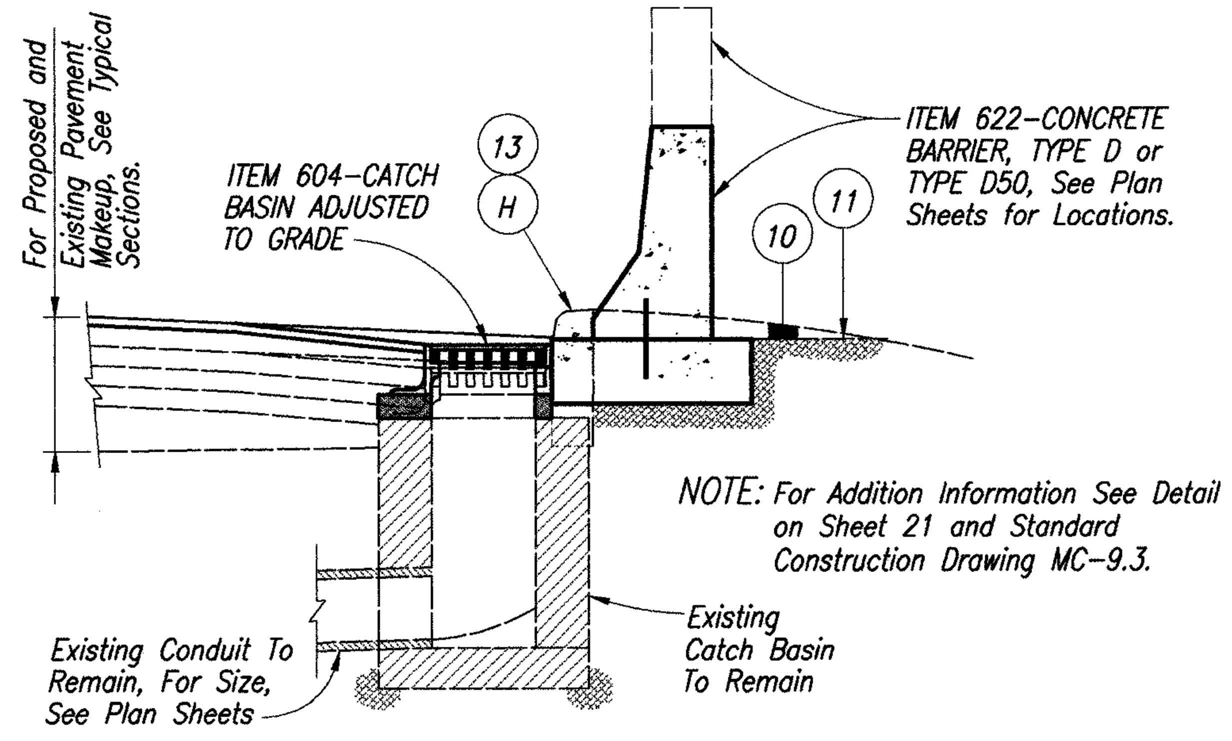
NOT TO SCALE



UNDERDRAIN DETAIL @ RED BANK EXPRESSWAY, RAMP B and RAMP C (4" Shallow Pipe Underdrain Shown for Clarity)

NOT TO SCALE

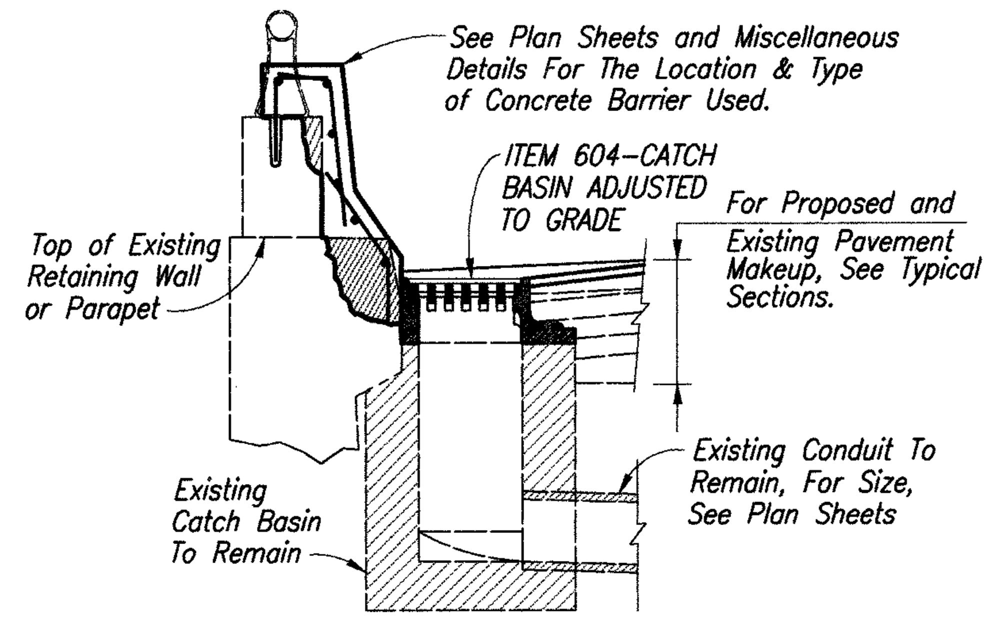
STA. 85+71.82 (RED BANK EXPRESSWAY)
STA. 16+74.12B (RAMP B), STA. 28+99.17C (RAMP C)



ITEM 604 - CATCH BASIN ADJUSTED TO GRADE

WITH CONCRETE BARRIER (SEE PLAN SHEETS FOR TYPE OF BARRIER)

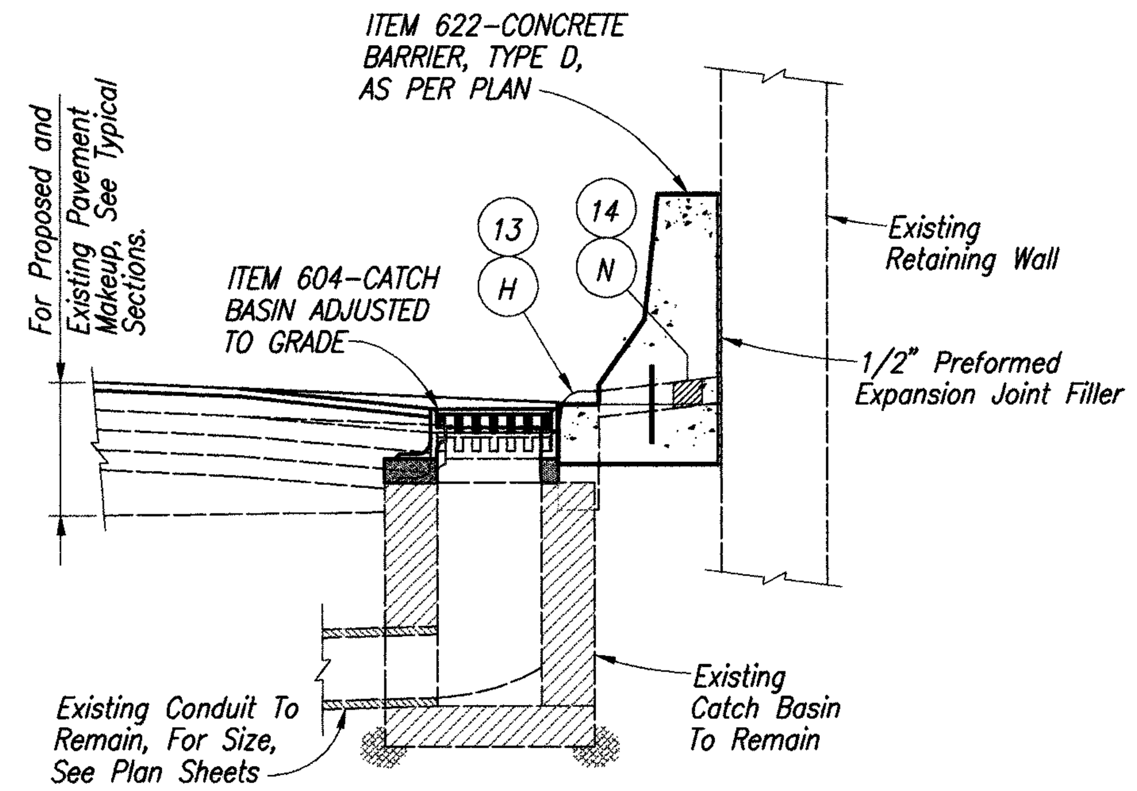
SCALE: 1/2" = 1'-0"



ITEM 604 - CATCH BASIN ADJUSTED TO GRADE

AT THE TOP OF RETAINING WALL OR PARAPET WITH CONCRETE BARRIER

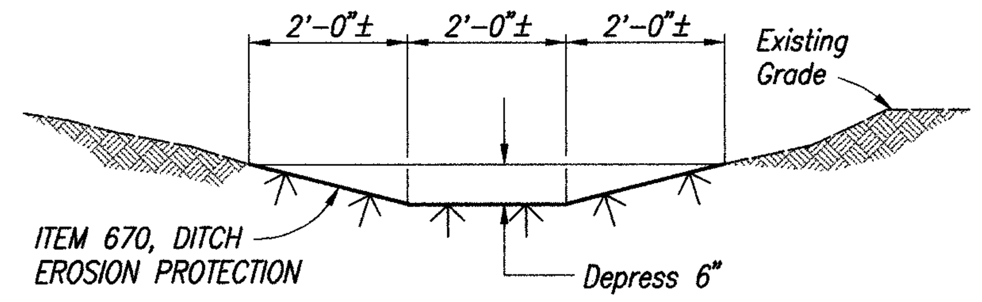
SCALE: 1/2" = 1'-0"



ITEM 604 - CATCH BASIN ADJUSTED TO GRADE

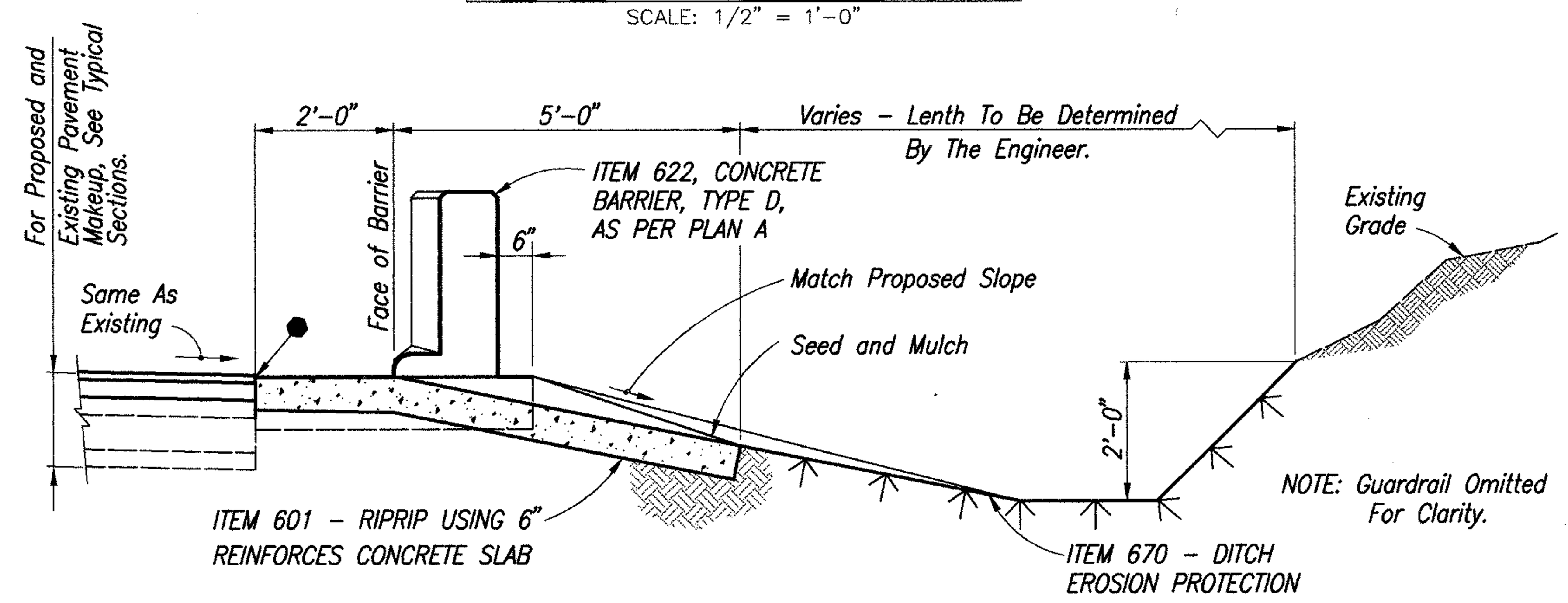
AT THE FACE OF RETAINING WALLS WITH CONCRETE BARRIER

SCALE: 1/2" = 1'-0"



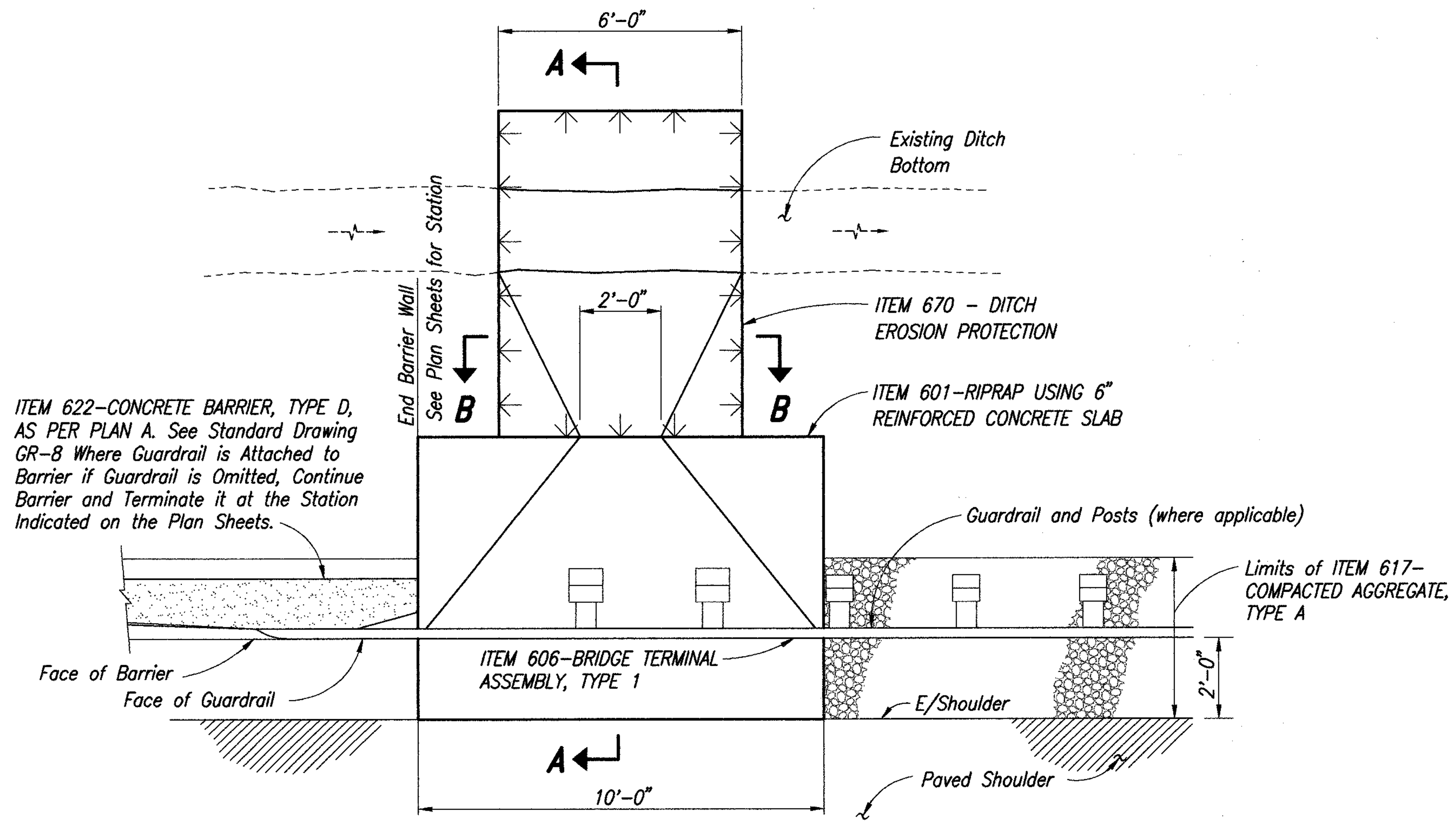
SECTION B-B

SCALE: 1/2" = 1'-0"



SECTION A-A

SCALE: 1/2" = 1'-0"



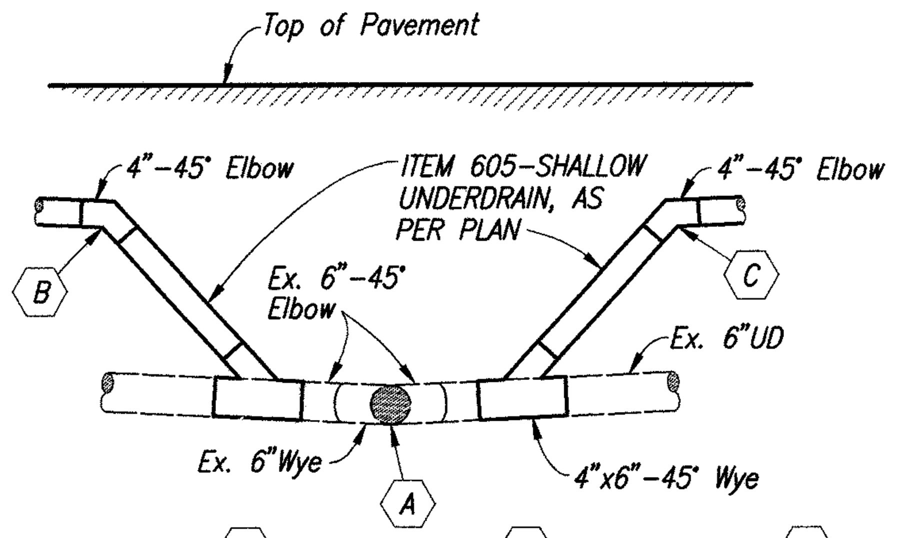
PLAN

SCALE: 3/8" = 1'-0"

NOTE: For Further Information See Standard Drawings GR-3.1 and GR-8.

● Indicates a 1/4" Drop, this is Typical at all Locations Where a Concrete Barrier is Placed Adjacent to Proposed Pavement Overlay.

EROSION PROTECTION DETAIL

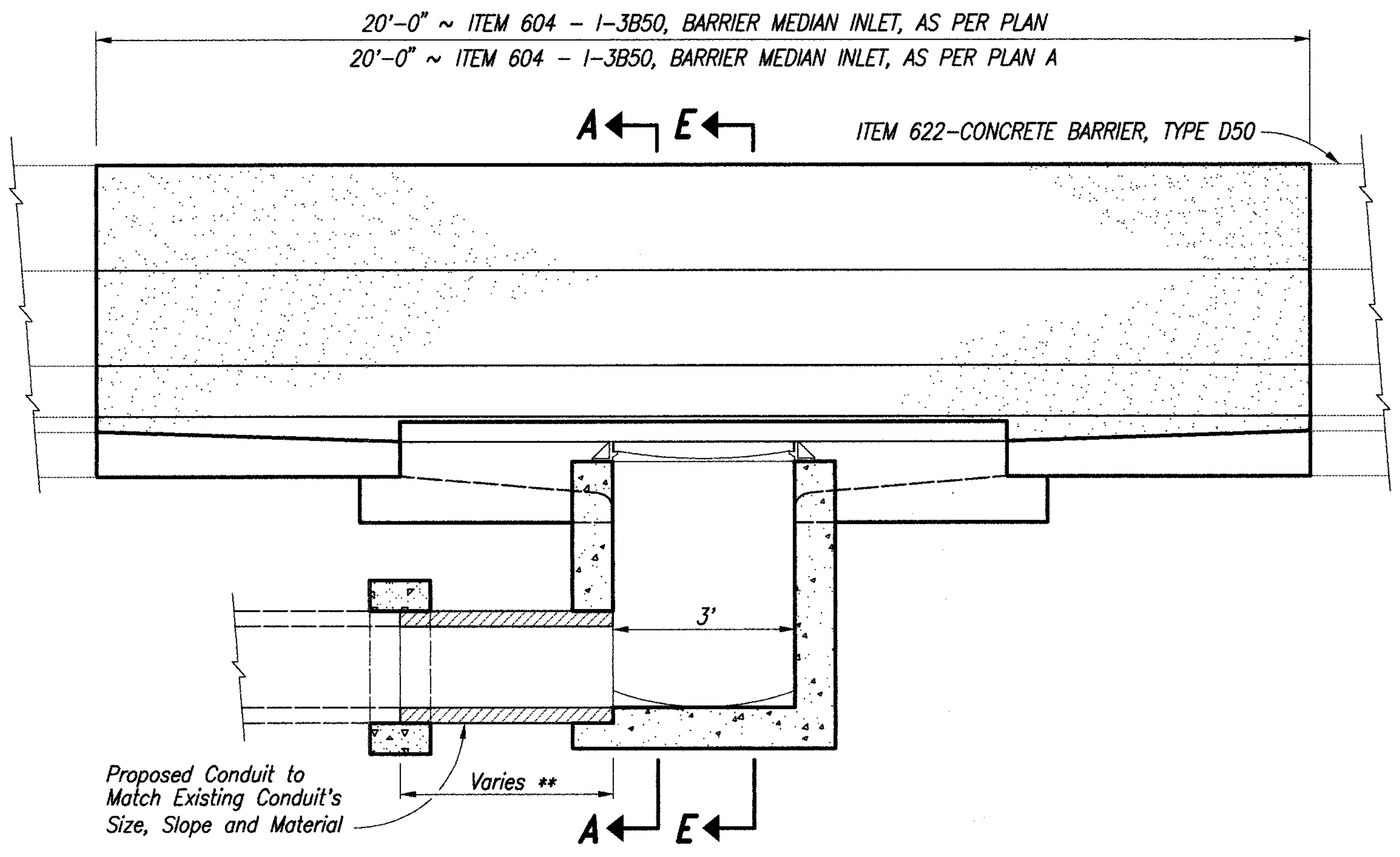


		A	B	C
Ramp GA	Sta. 174+75GA	+75GA, Inv. 582.70	+70GA, Inv. 586.92	+80GA, Inv. 586.88
Ramp RA	Sta. 186+36RA	+36RA, Inv. 640.50	+33RA, Inv. 642.32	+39RA, Inv. 644.60
I-71 SB	Sta. 170+83SB	+83SB, Inv. 575.40	+78SB, Inv. 580.52	+88SB, Inv. 580.51

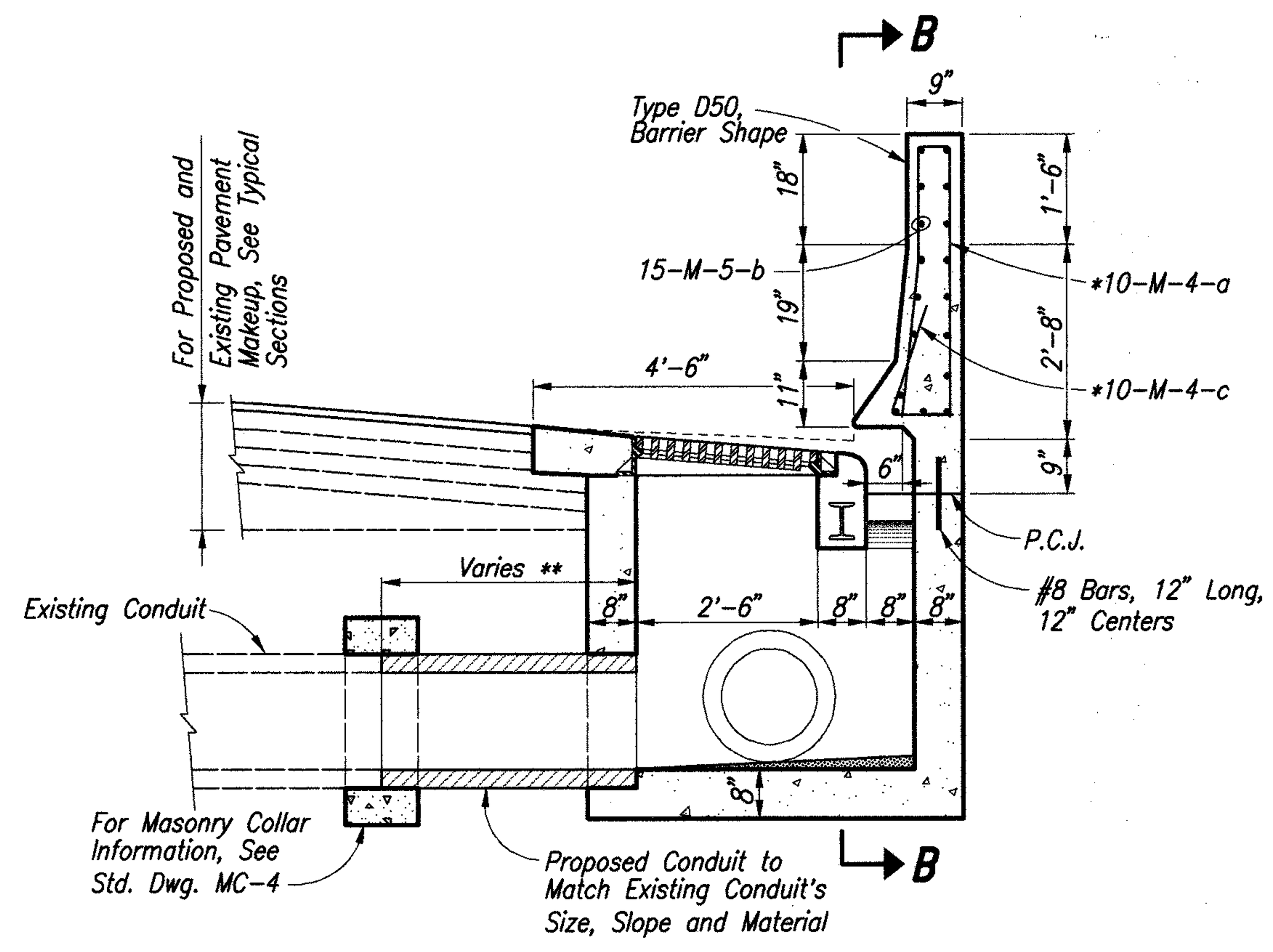
UNDERDRAIN CROSS-UNDER DETAIL

(4" Shallow Pipe Underdrain Shown for Clarity)

NOT TO SCALE



SECTION B-B



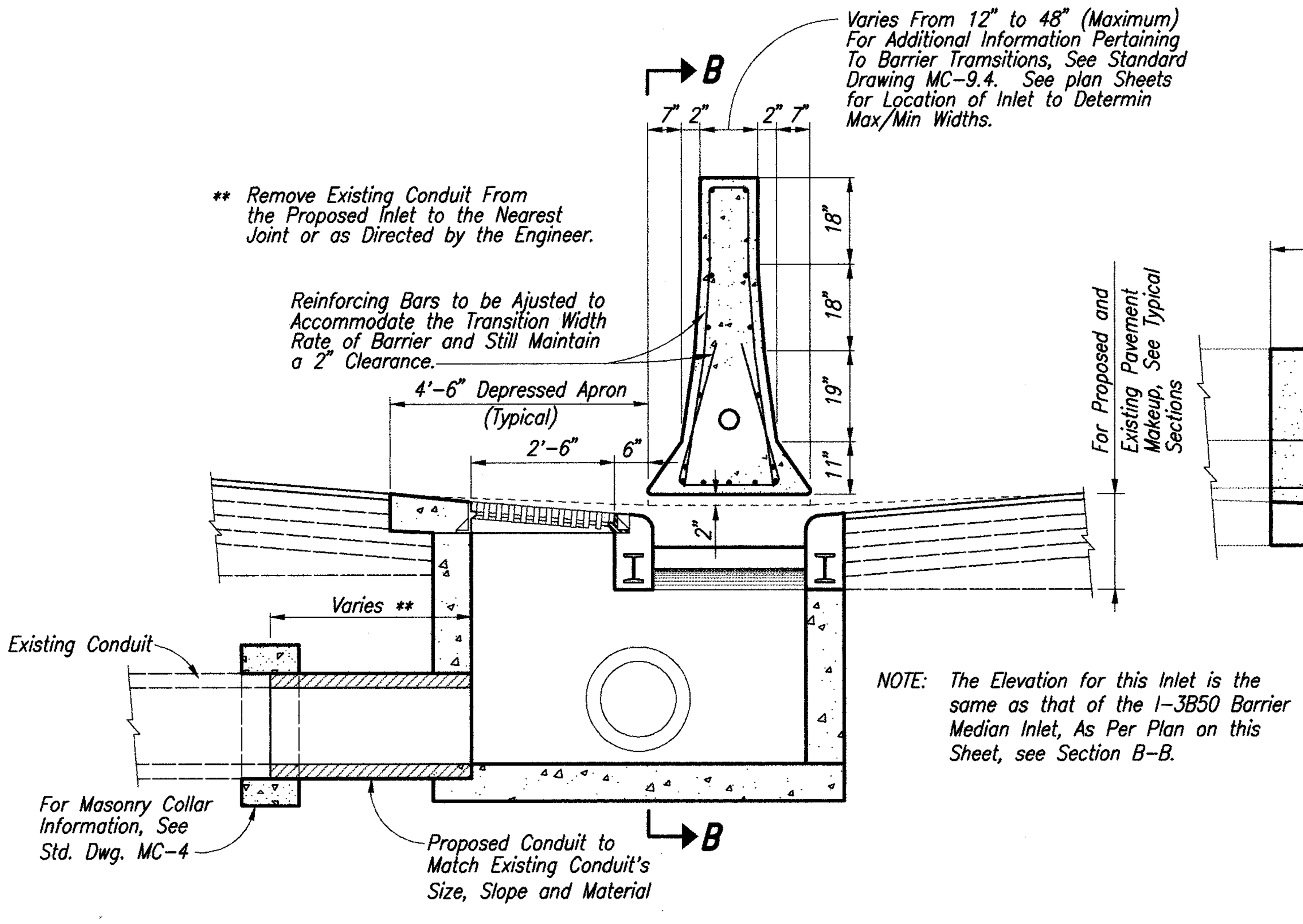
** Remove Existing Conduit From The Proposed Inlet To The Nearest Joint or As Directed By The Engineer.

SECTION A-A

I-3B50 BARRIER MEDIAN INLET, AS PER PLAN

ODOT ITEM MASTER DESCRIPTION: ITEM 604 - INLET, NO. 3B50, AS PER PLAN

2 0 2 4 6
SCALE: 1/2" = 1'-0"



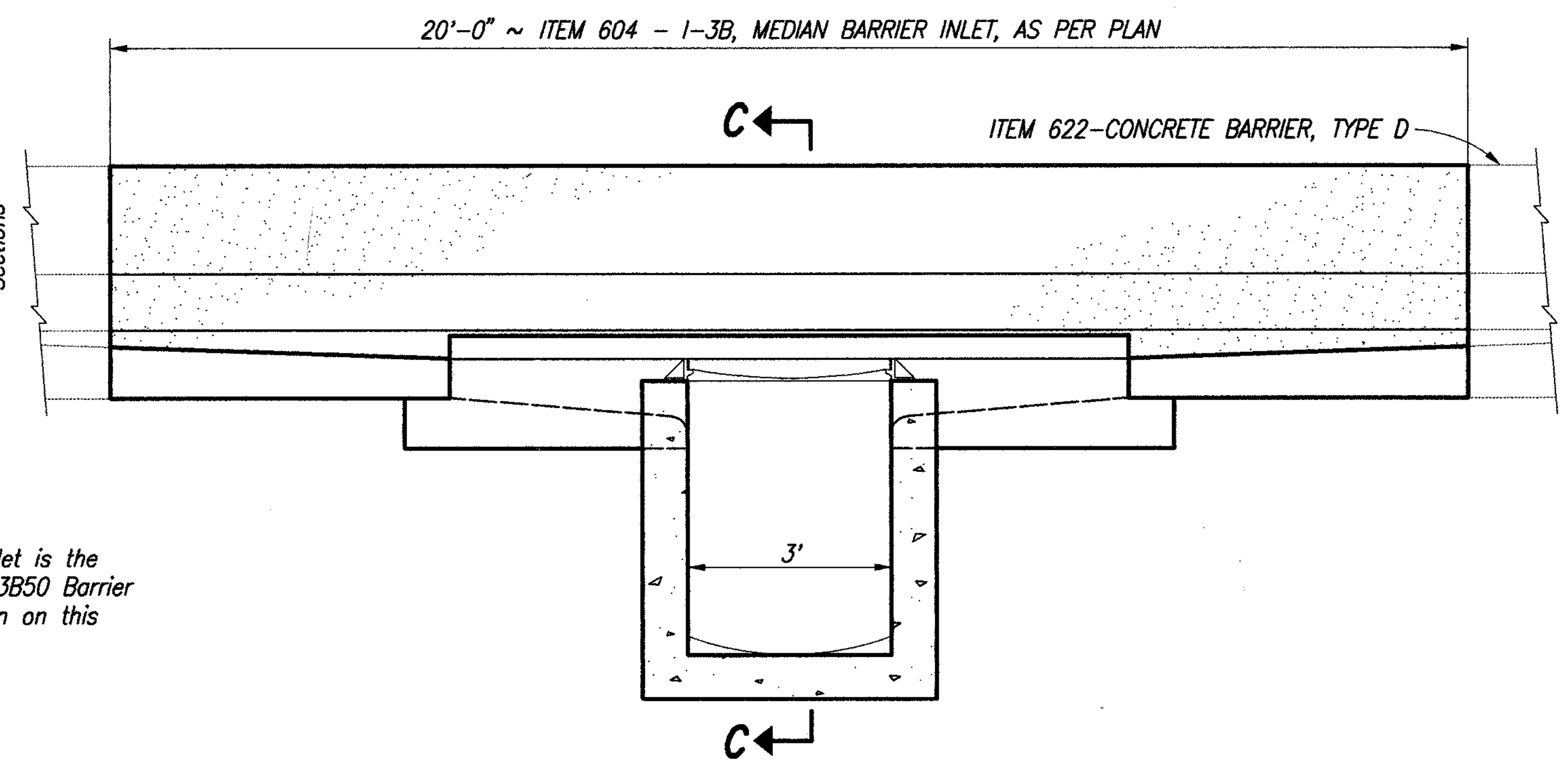
NOTE: The Elevation for this Inlet is the same as that of the I-3B50 Barrier Median Inlet, As Per Plan on this Sheet, see Section B-B.

SECTION E-E

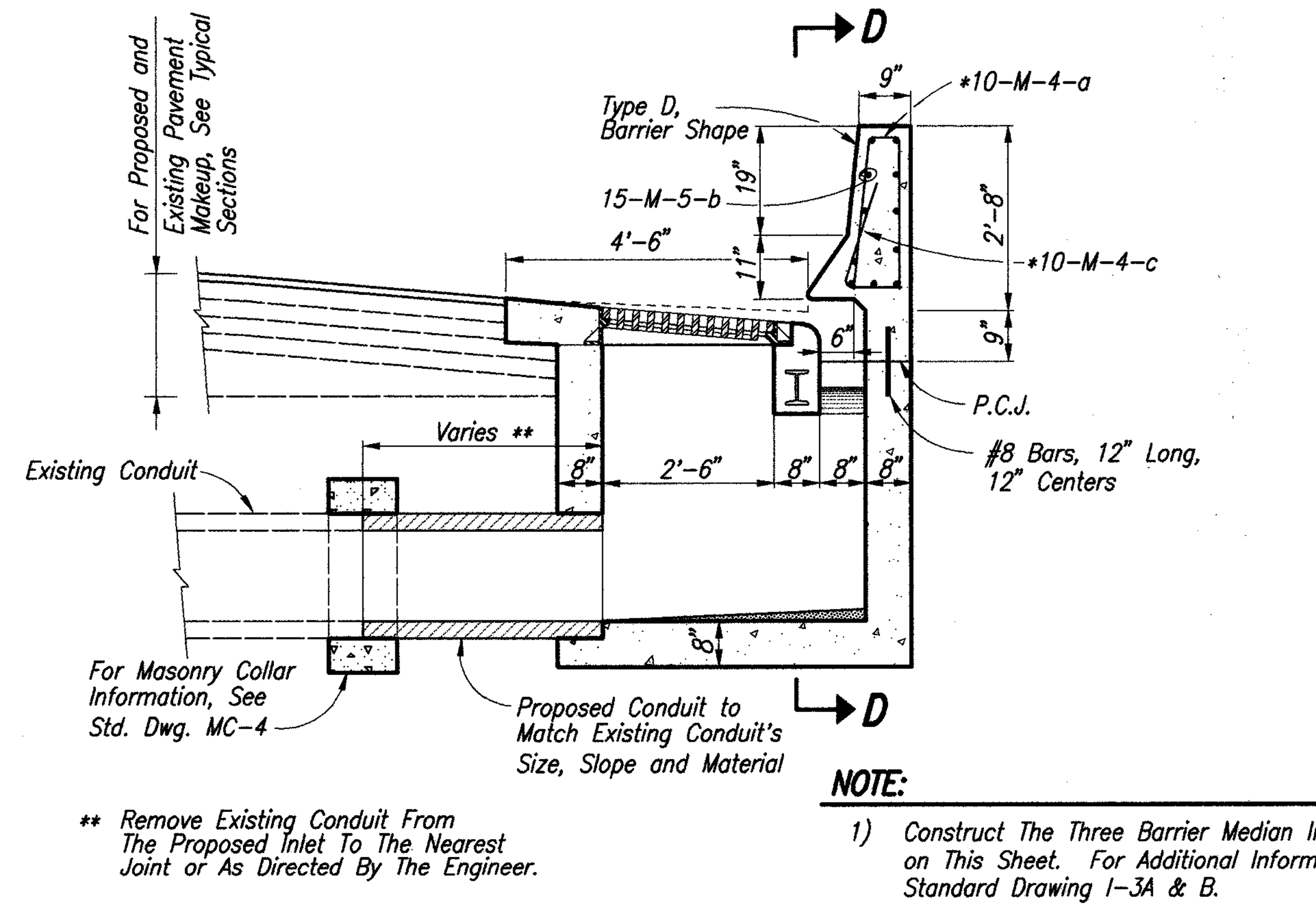
I-3B50 BARRIER MEDIAN INLET, AS PER PLAN A

ODOT ITEM MASTER DESCRIPTION: ITEM 604 - INLET, NO. 3B50, AS PER PLAN A

2 0 2 4 6
SCALE: 1/2" = 1'-0"



SECTION D-D



** Remove Existing Conduit From The Proposed Inlet To The Nearest Joint or As Directed By The Engineer.

SECTION C-C

I-3B BARRIER MEDIAN INLET, AS PER PLAN

ODOT ITEM MASTER DESCRIPTION: ITEM 604 - INLET, NO. 3B, AS PER PLAN

2 0 2 4 6
SCALE: 1/2" = 1'-0"

NOTE:

1) Construct The Three Barrier Median Inlets As Shown on This Sheet. For Additional Information See Standard Drawing I-3A & B.

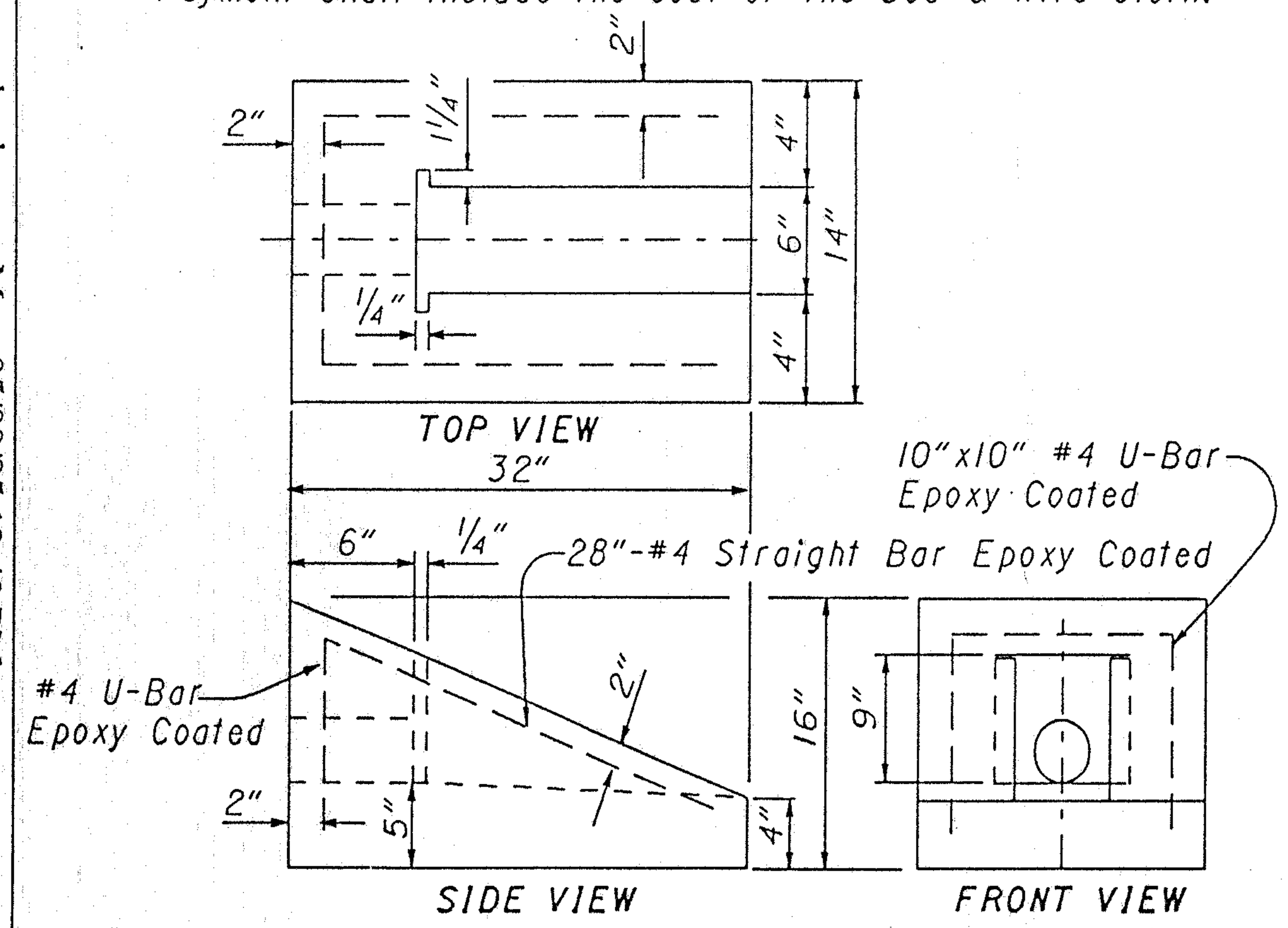
2) For Barrier Median Inlet Locations, See Plan Sheets. For Conduit Lengths, Sizes, and Inverts, See Drainage Profiles on Sheets 138-140.

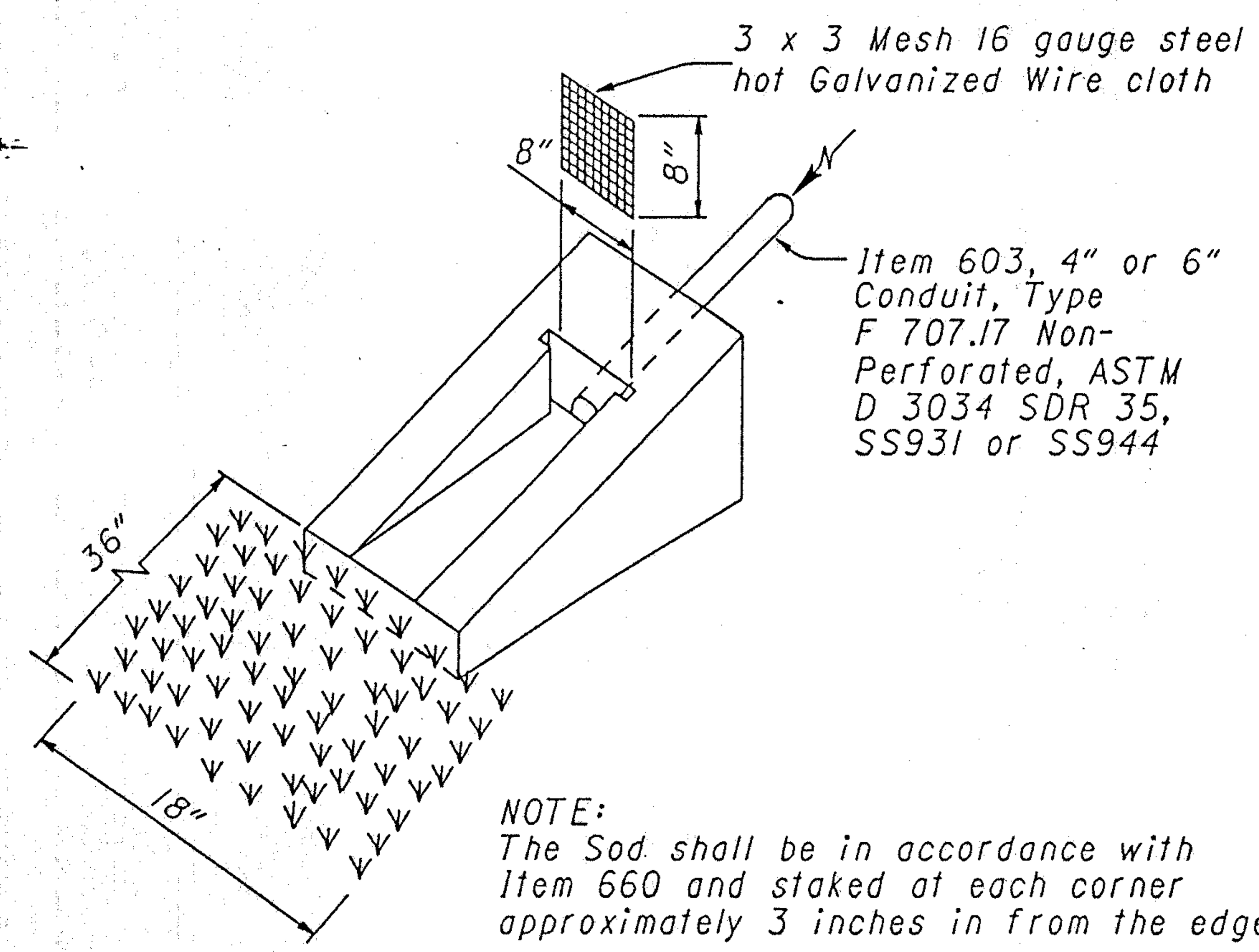
3) All Reinforcing Steel Shall Be Epoxy Coated As Per 509.10 of The "Construction and Material Specifications", Grade 60. All Costs of This Coating Shall Be Included In The Cost of The Inlet It is Being Used In. All Rebar Shall Have A Minimum of 2" Clearance. For Further Information See Standard Drawings MC-9.3 and I-3A & B.

4) The ODOT Item Master Description for The Three (3) Inlet Details on This Sheet, Has Been Used on The Estimated Quanity, General Summary & General Note Sheets.

ITEM SPECIAL - PRECAST REINFORCED CONCRETE OUTLET

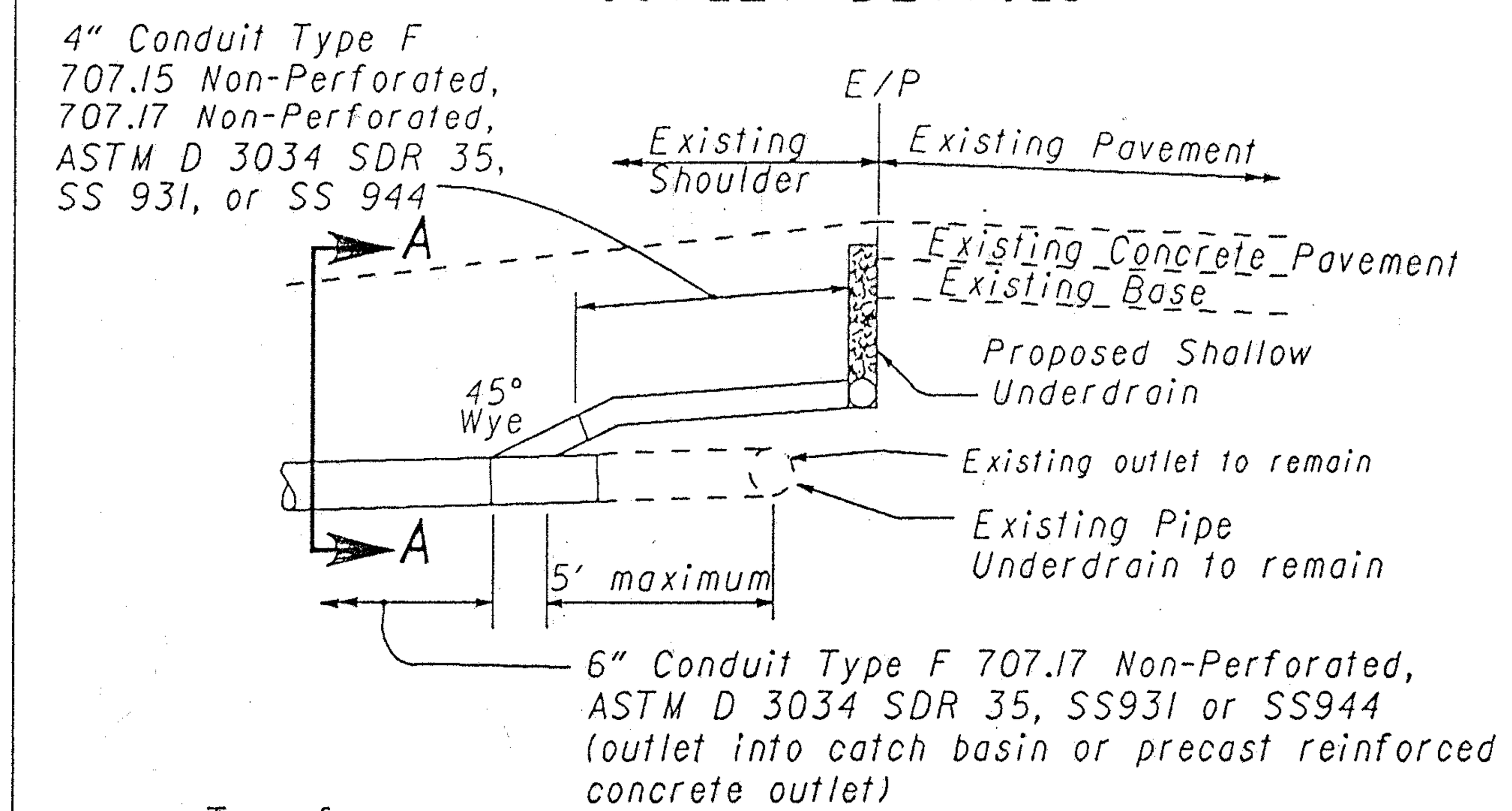
The Concrete outlet shall meet the requirements of CMS 604. Payment shall be made on an Each basis. Payment shall include the cost of the Sod & Wire Cloth.



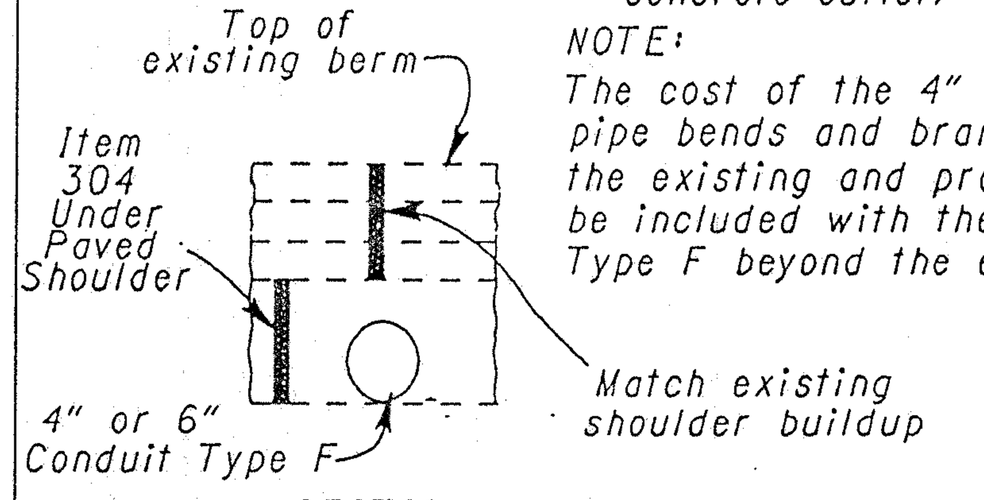


NOTE:
The Sod shall be in accordance with Item 660 and staked at each corner approximately 3 inches in from the edge.

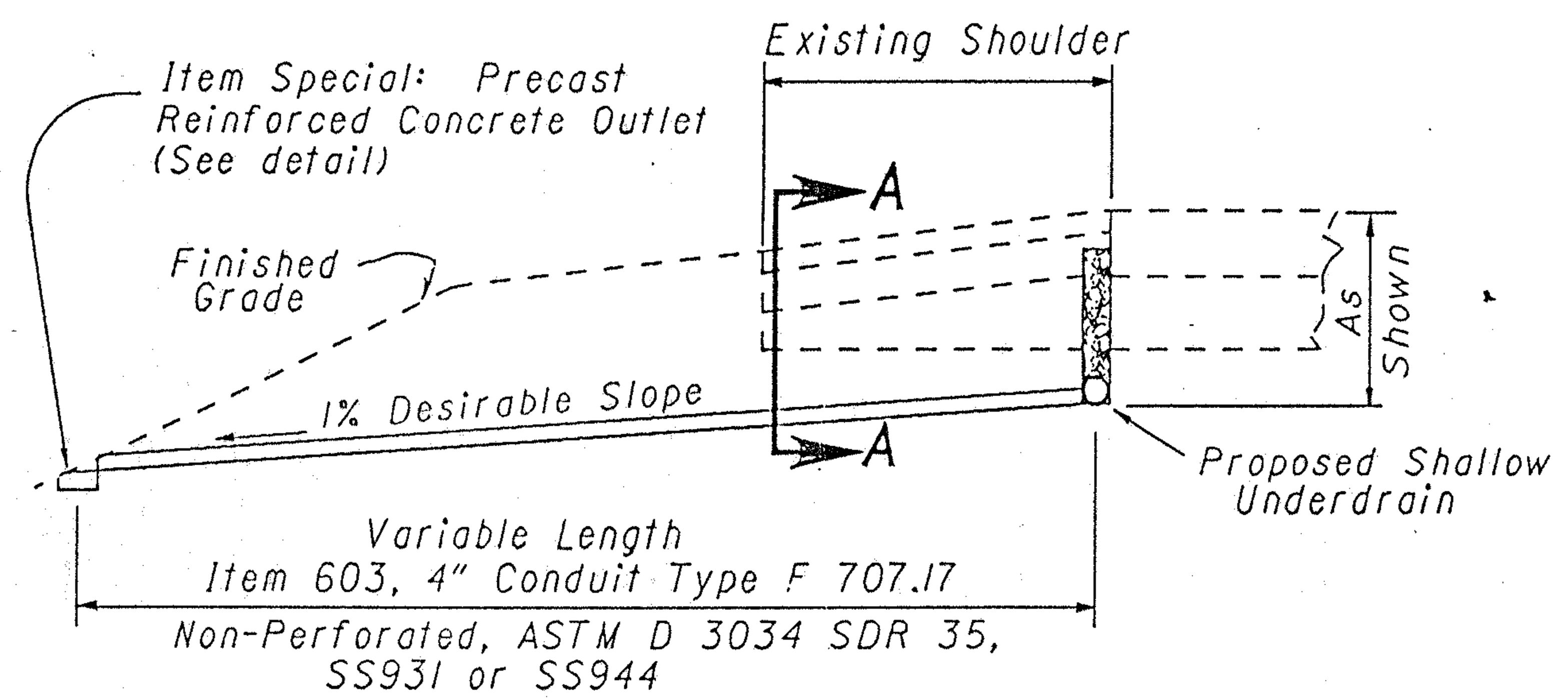
OUTLET DETAILS



NOTE:
The cost of the 4" conduit Type F and necessary pipe bends and branches needed to connect the existing and proposed underdrains shall be included with the cost of the 6" conduit Type F beyond the existing underdrain.

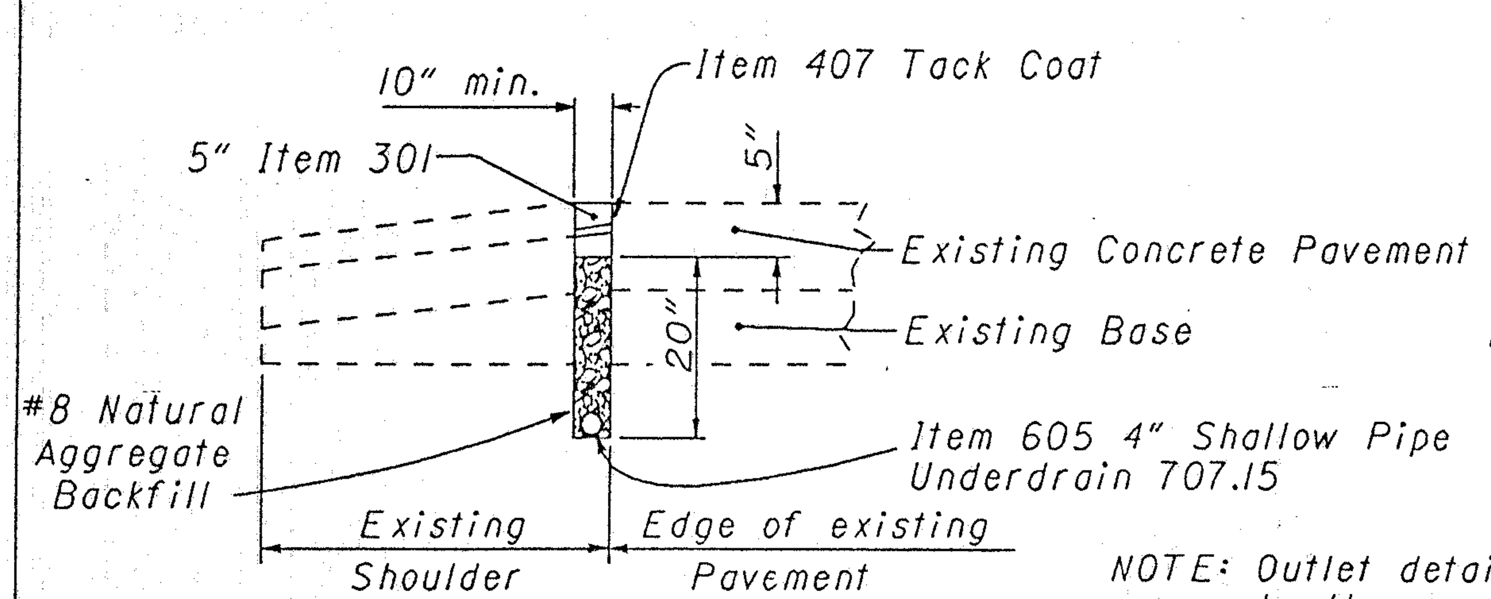


SECTION A-A



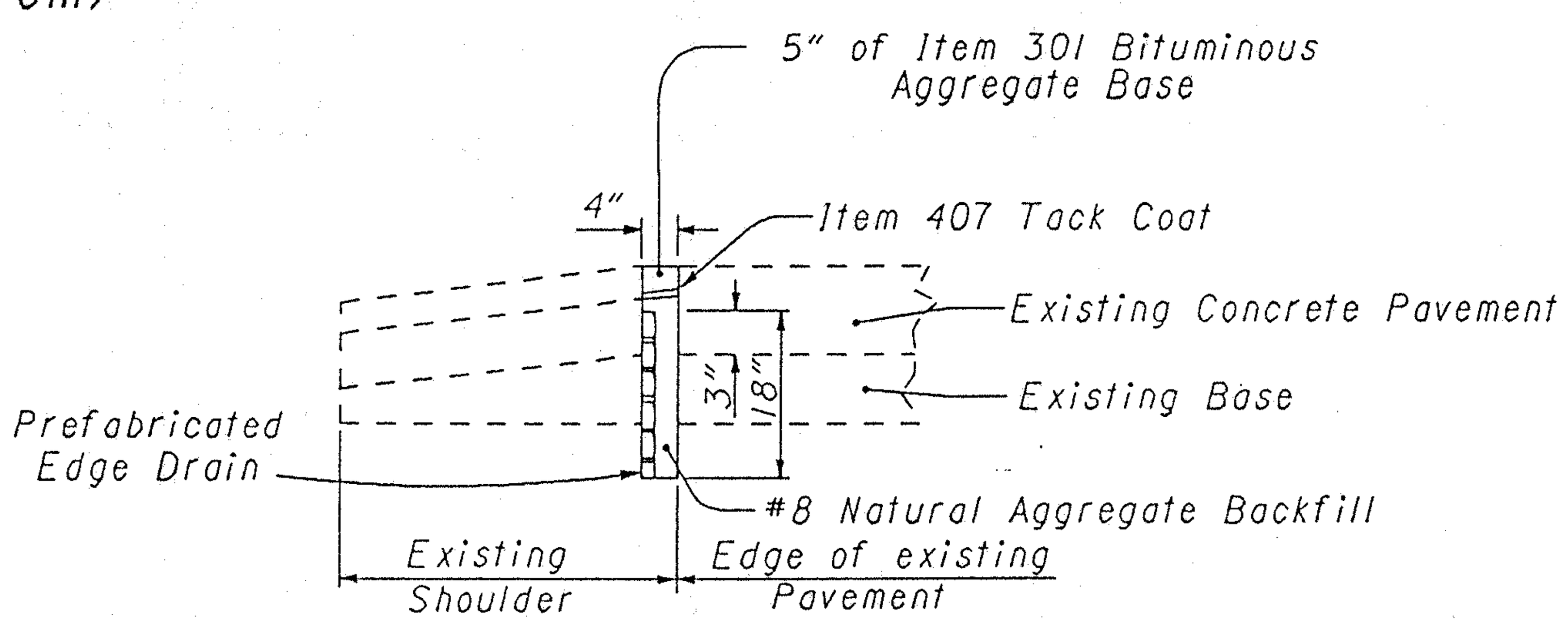
NOTE: For underdrain outlets into catch basins the above Type F Conduit shall be used entirely between the underdrain & catch basin.

PIPE UNDERDRAIN SYSTEM
(Alternate to Prefabricated Edge Drain System)



NOTE: Outlet details to be the same as shown above.

PREFABRICATED EDGE DRAIN SYSTEM



HAM-71-1.30/9.00

DESCRIPTION: This item shall consist of furnishing and installing either a pipe underdrain system or a prefabricated edge drain system in accordance with the specifications and with the details, as shown on the plans, and as directed by the Engineer.

MATERIALS: The underdrain shall either be a pipe underdrain system per Item 605 or a prefabricated edge drain system meeting the following requirements. The prefabricated edge drain shall consist of a polymeric core with a minimum thickness of one inch wrapped in fabric meeting CMS 712.09 Type A. The drain shall be flexible, rectangular in shape and of hollow construction. The core material shall be resistant to petroleum based chemicals, naturally occuring soil chemicals, and road de-icing agents.
The core material shall have sufficient flexibility to withstand installation bending and handling without damage. The core shall provide a minimum of 100 square inches unobstructed (one side only) drainage area per foot of width. Side walls of the core shall provide at least 5% open area to permit unobstructed flow through the filter and wall to the core.

The prefabricated edge drain shall have a minimum compressive strength of 6000 pounds per square foot with a maximum 20% compression in a parallel plate compression test (ASTM D 695). The minimum (single side) core flow capacity shall be 10 gallons per minute per foor of width for a 0.1 gradient at 10 pounds per square inch bladder load per ASTM D 4716.

The prefabricated edge drain manufacturer's certified test results shall be furnished in accordance with CMS 101.061.

CONSTRUCTION: The prefabricated edge drain shall be installed against the outside wall of the trench as shown and backfilled adjacent to the pavement with No. 8 natural aggregate. The No. 8 aggregate shall be placed in one (1) or more lifts with a vibratory compactor run over the final lift to consolidate the aggregate prior to placing the asphalt plug. The first layer of the backfill material shall be placed simultaneously with the trenching operation to hold the edge drain flush against the trench wall.

The prefabricated edge drain shall be spliced as required prior to placement in the trench, using material furnished by the manufacturer and in accordance with the manufacturer's directions. All material required for the splices will be supplied by the manufacturer, but any equipment required shall be furnished by the Contractor. Splices shall prevent separation of adjoining sections of the prefabricated edge drain panels.

The underdrain outlets shall be placed in accordance with Item 603 using outlet fittings. The manufacturer shall supply outlet fittings which will make the transition between the prefabricated edge drain and the outlet pipe.

The outlets for both underdrain systems shall be constructed as soon as possible after placement of the underdrain. The underdrain and outlets on crack & seat projects shall be in place and functional prior to cracking and seating the existing pavement.

METHOD OF MEASUREMENT: Completed and accepted underdrains will be measured by the linear foot in place.

BASIS OF PAYMENT FOR PIPE UNDERDRAIN SYSTEM: Work completed, accepted and measured under this item shall be paid for at the contract unit price bid for **Item 605 - 4" Shallow Pipe Underdrain 707.15, As Per Plan.** The price shall be full compensation for excavation and backfill; for furnishing materials, including materials for outlet fittings; and for all labor, tools, equipment and incidentals necessary to complete the work.

BASIS OF PAYMENT FOR PREFABRICATED EDGE DRAIN SYSTEM: Work completed, accepted and measured under this item shall be paid for at the contract unit price bid for **Item 605 - Shallow Underdrain, As Per Plan.** The price shall be full compensation for excavation and backfill; for removing and disposing of all surplus excavation in accordance with CMS 203; for furnishing materials, including materials for splices, outlet fittings, and Item 301; and for all labor, tools, equipment and incidentals necessary to complete the work. The price shall also include all costs associated with pipe underdrains, as specified above, which are installed as alternates to the prefabricated edge drain system.

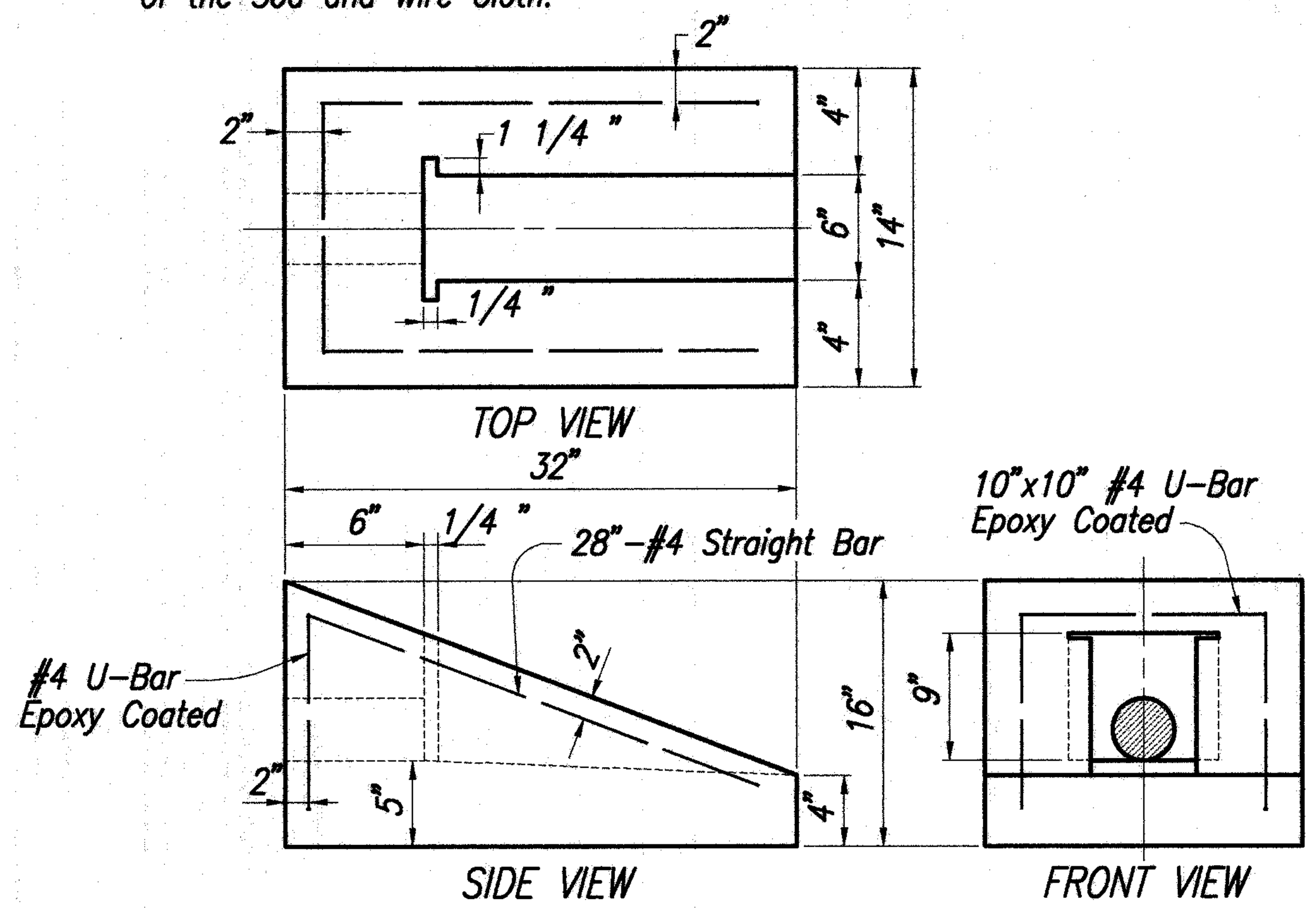
Rev. 6-20-95

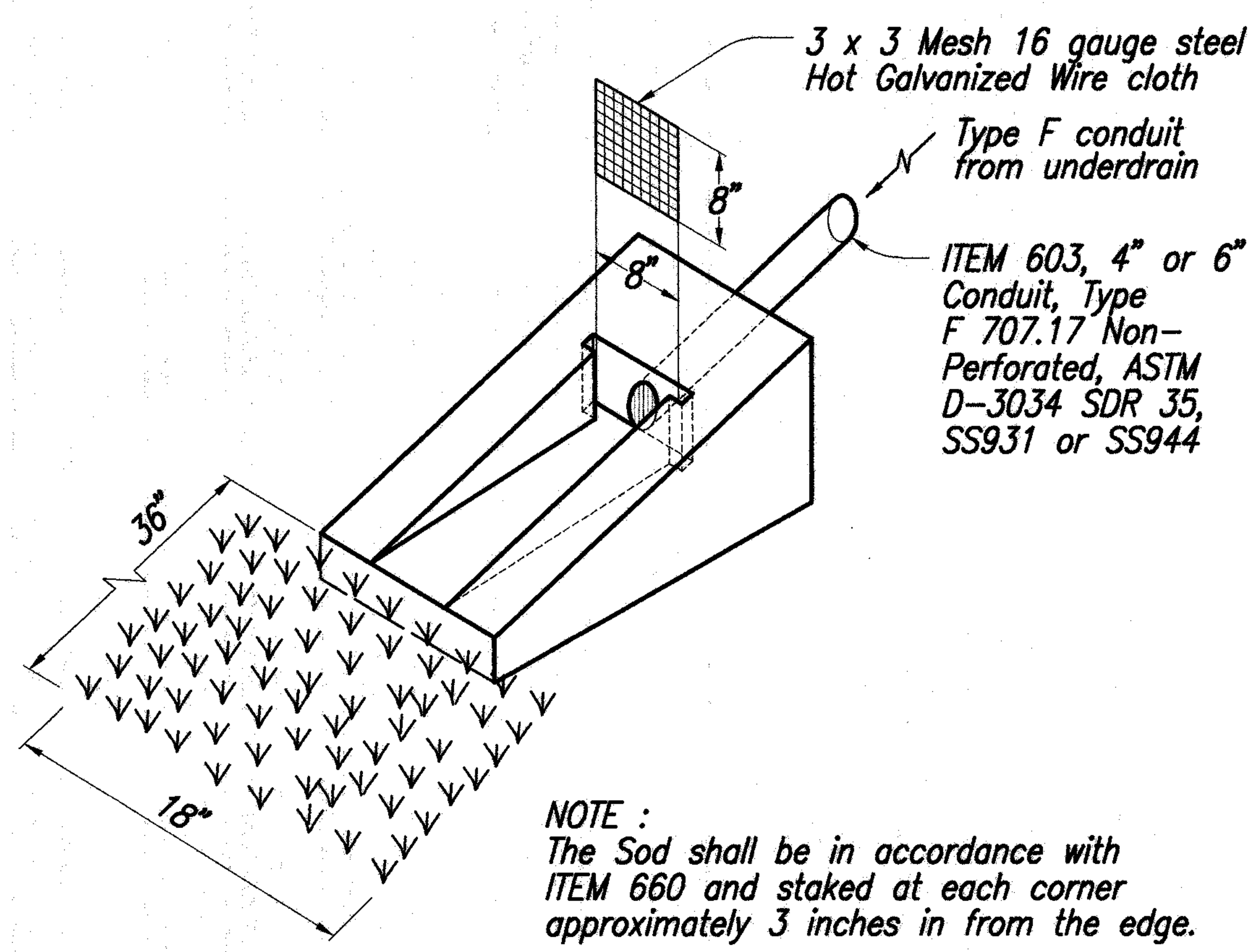
ITEM 605-SHALLOW UNDERDRAIN, AS PER PLAN

DATE 5-8-95

ITEM SPECIAL - PRECAST REINFORCED CONCRETE OUTLET

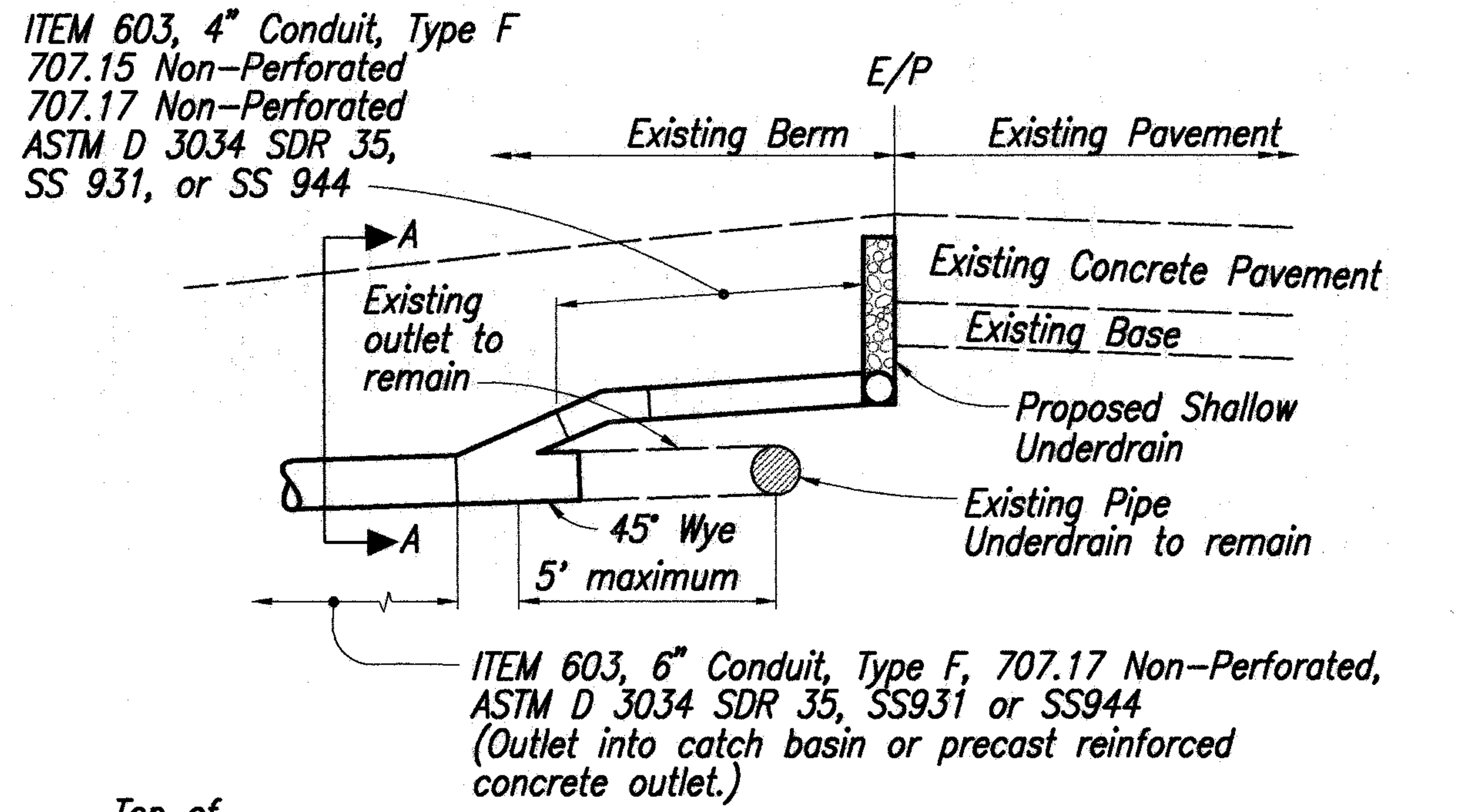
The concrete outlet shall meet the requirements of ITEM 604 in the Construction & Materials Specifications. Payment shall be made on an Each basis. Payment shall include the cost of the Sod and Wire Cloth.

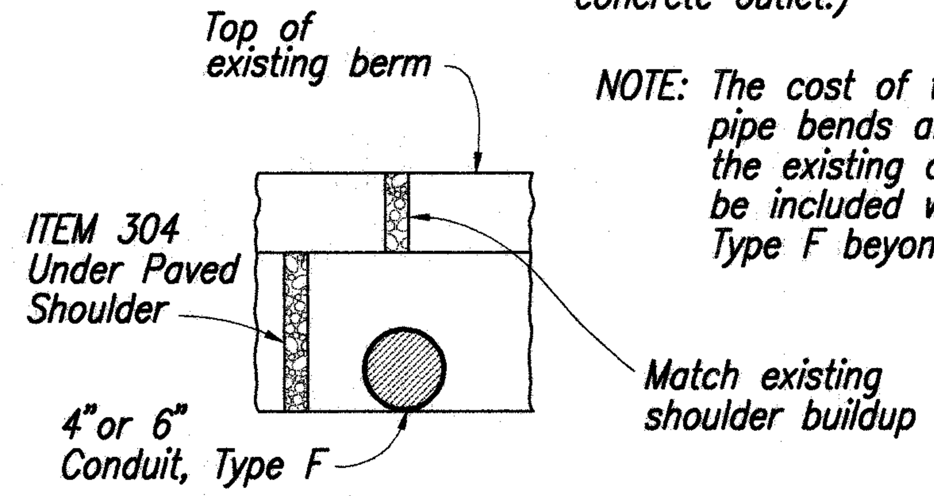




NOTE :
The Sod shall be in accordance with ITEM 660 and staked at each corner approximately 3 inches in from the edge.

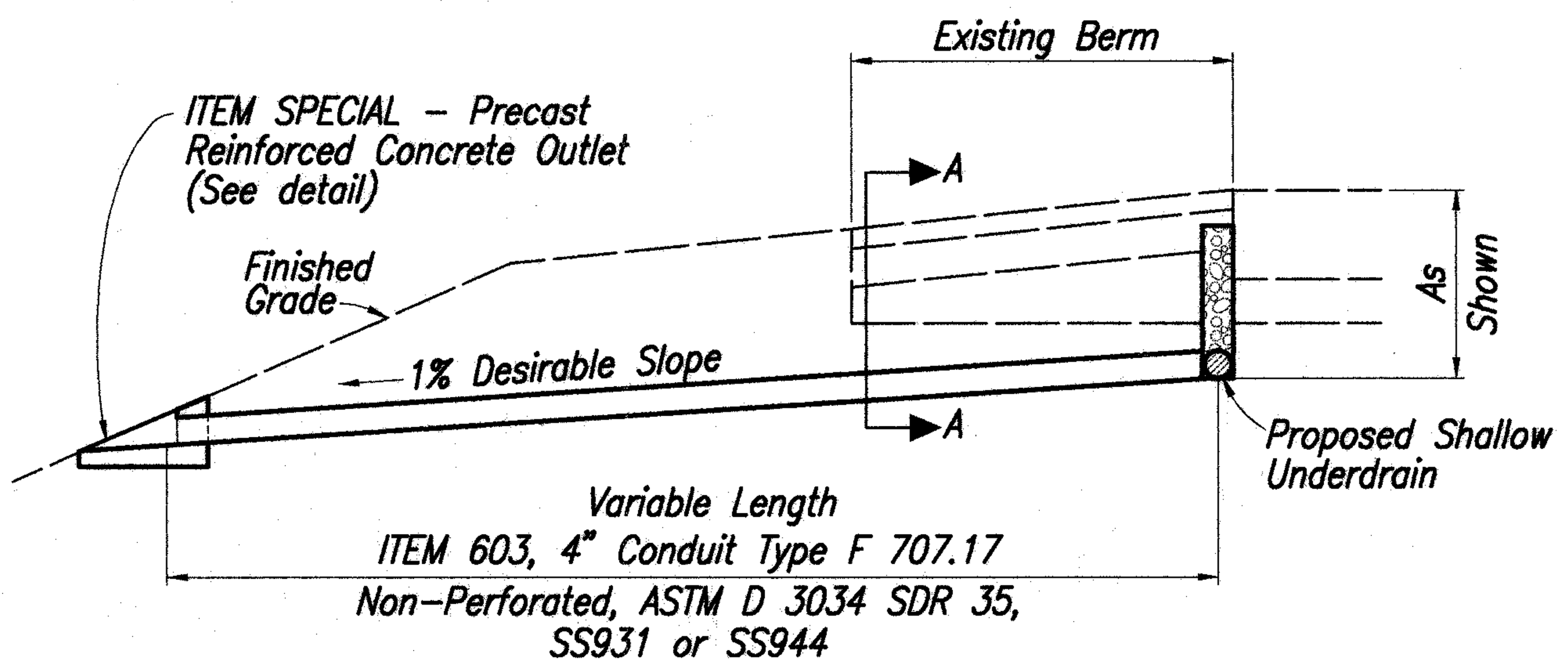
OUTLET DETAILS





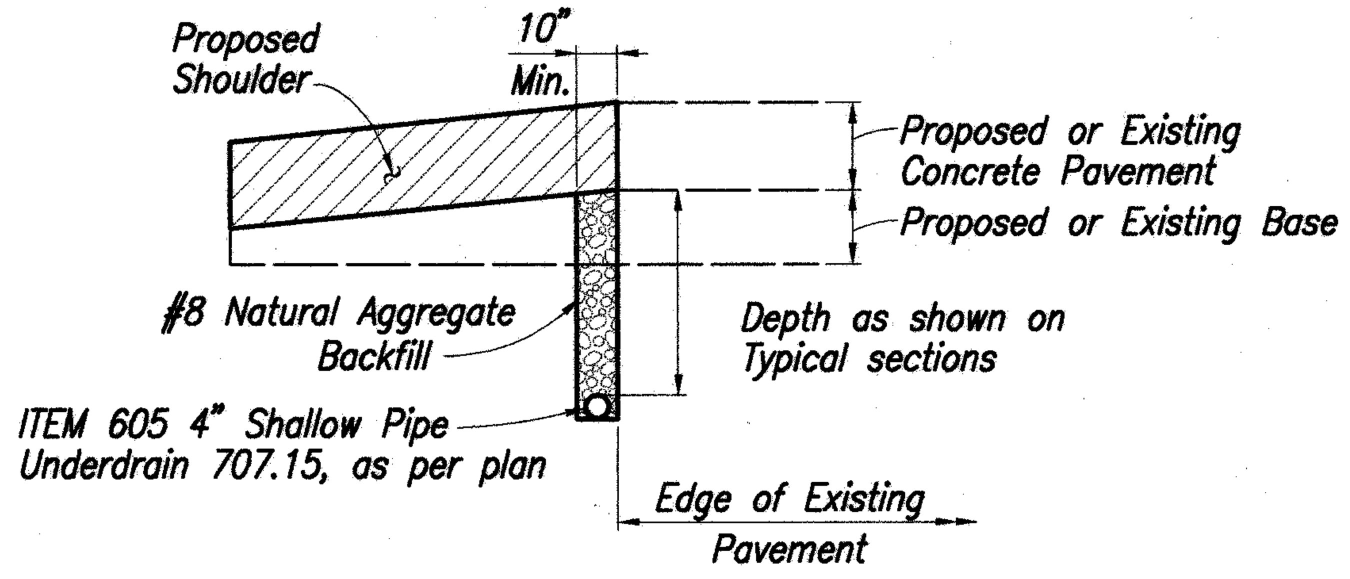
SECTION A-A

NOTE: The cost of the 4" Conduit, Type F and necessary pipe bends and branches needed to connect the existing and proposed underdrains shall be included with the cost of the 6" conduit Type F beyond the existing underdrain.



NOTE: For underdrain outlets into catch basins, the above Type F Conduit shall be used entirely between the underdrain and catch basin.

PIPE UNDERDRAIN DETAIL



DESCRIPTION: This item shall consist of furnishing and installing a pipe underdrain system in accordance with the specifications, details as shown on the plans, and as directed by the Engineer.

MATERIALS: The underdrain shall be a pipe underdrain system per Item 605 The outlets for the underdrain system shall be constructed as soon as possible after placement of the underdrain to drain the subbase and subgrade. All pipe bends and branches needed to connect the proposed underdrain to the proposed outlet or to an existing underdrain shall be manufactured fittings.

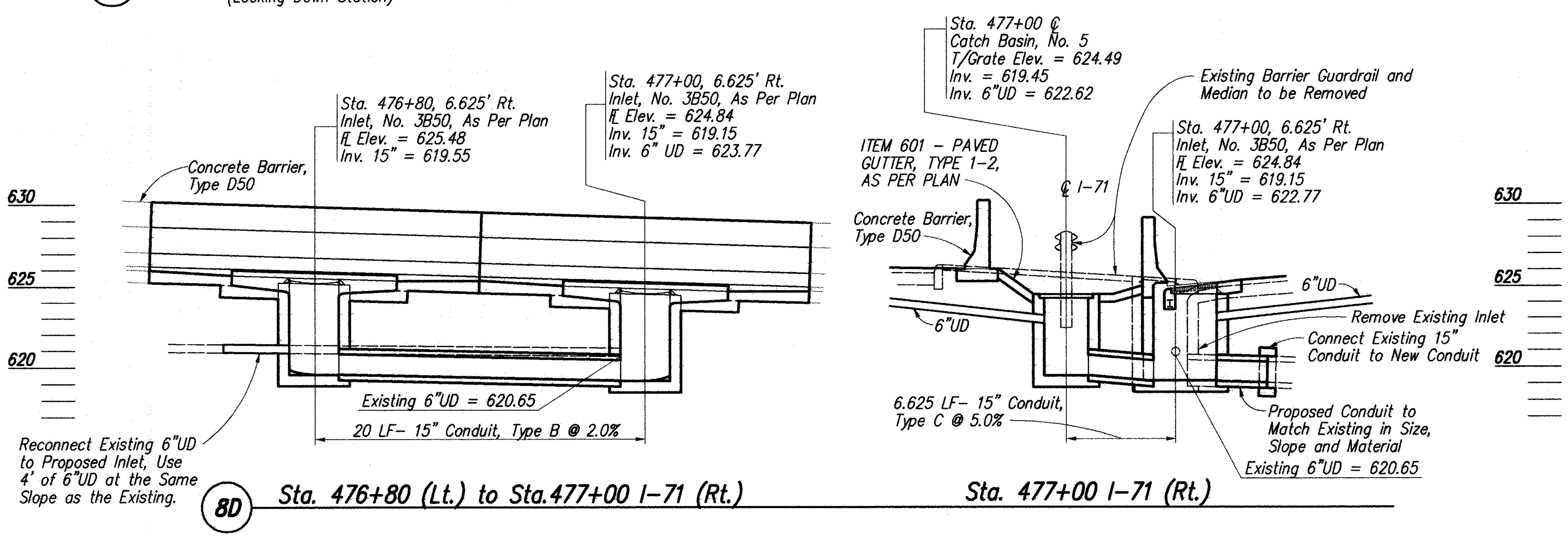
METHOD OF MEASUREMENT: Completed and accepted underdrains will be measured by the linear foot in place.

BASIS OF PAYMENT: Work completed and accepted under this item and measured will be paid for at the contract unit price bid per linear foot for ITEM 605 - 4" SHALLOW PIPE UNDERDRAIN 707.15, AS PER PLAN. The price shall be full compensation for excavation and backfill; for furnishing materials, including material for outlet fittings, for all labor, tools, equipment, and incidentals necessary to complete the work.

ITEM 605 - 4" SHALLOW PIPE UNDERDRAIN 707.15, AS PER PLAN

DATE 2-5-93

SCALE: 1" = 5'-0"



NOTES

1) Elevations Shown are based on the Profile Grade Elevations of the Original Construction Drawings.
2) For Pipe Profile Locations, See Plan Sheets.
3) For Further Information, See SECTION 2 Typical Section Sheets 14-15 and SECTION 2 Plan Sheets 113-122.
4) For Further Inlet Information, See Drainage Details on Sheet 136B.

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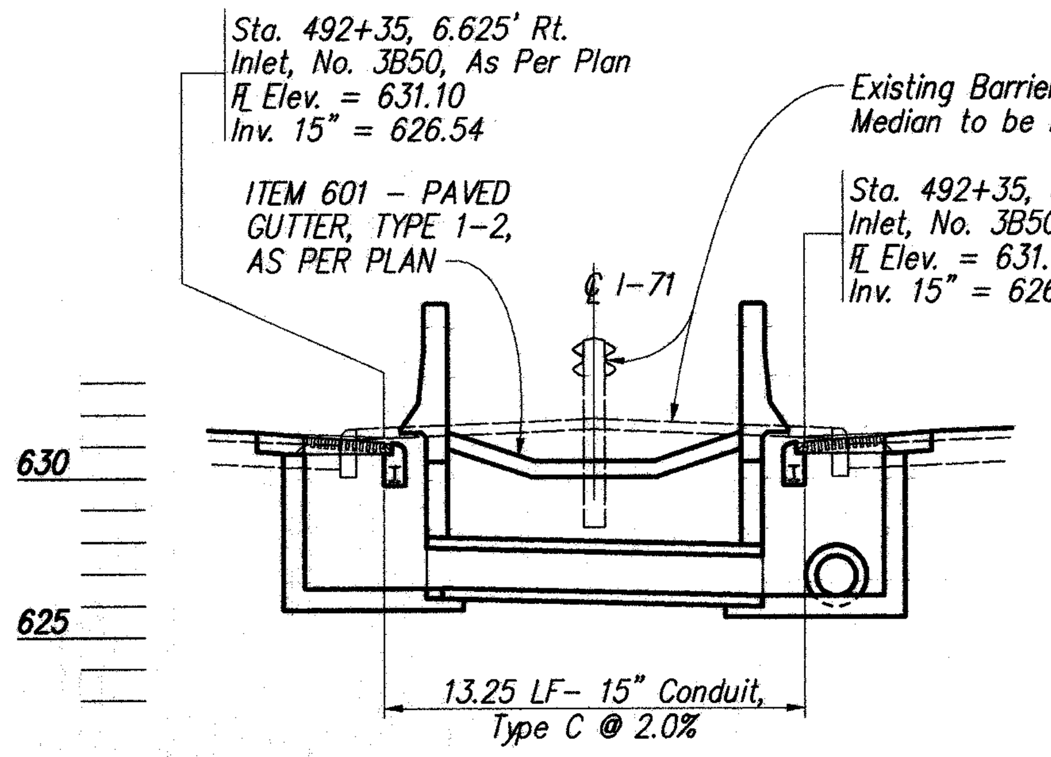
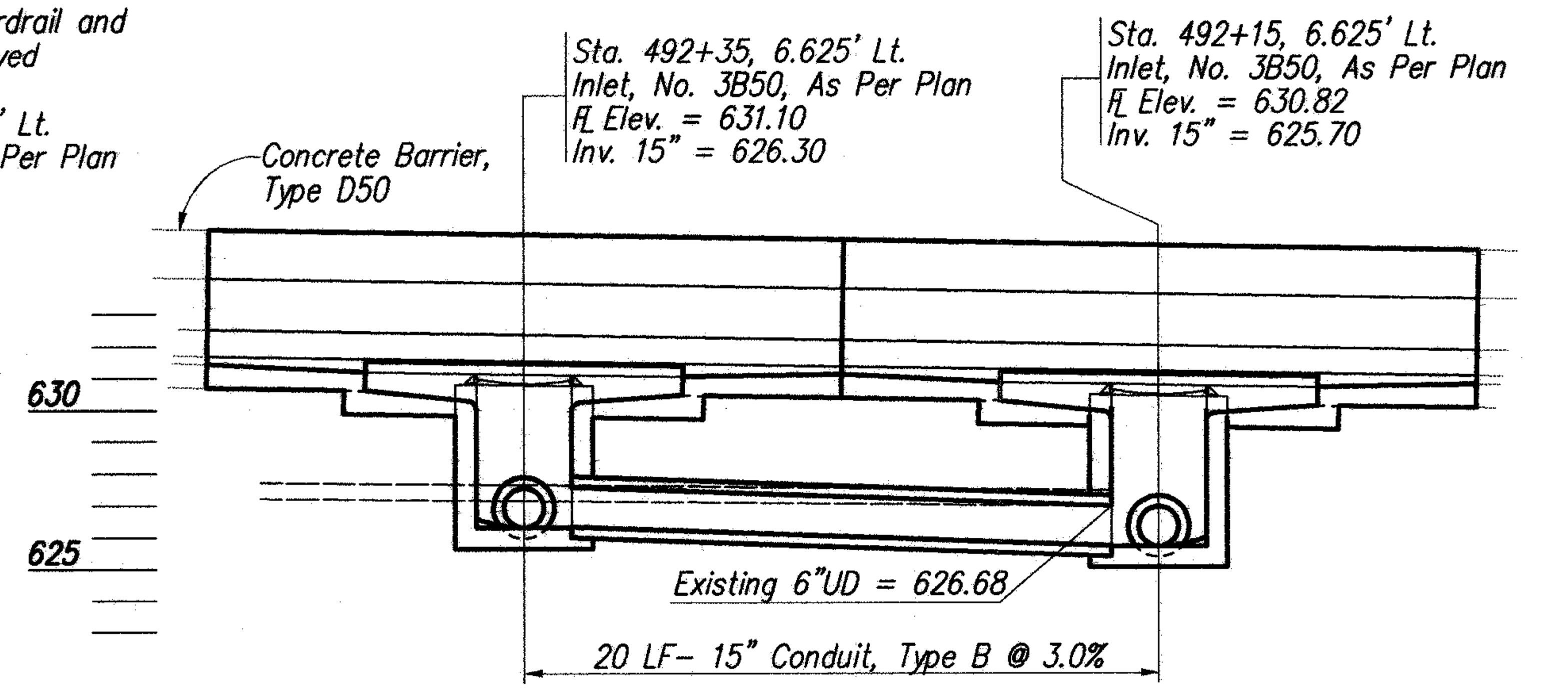
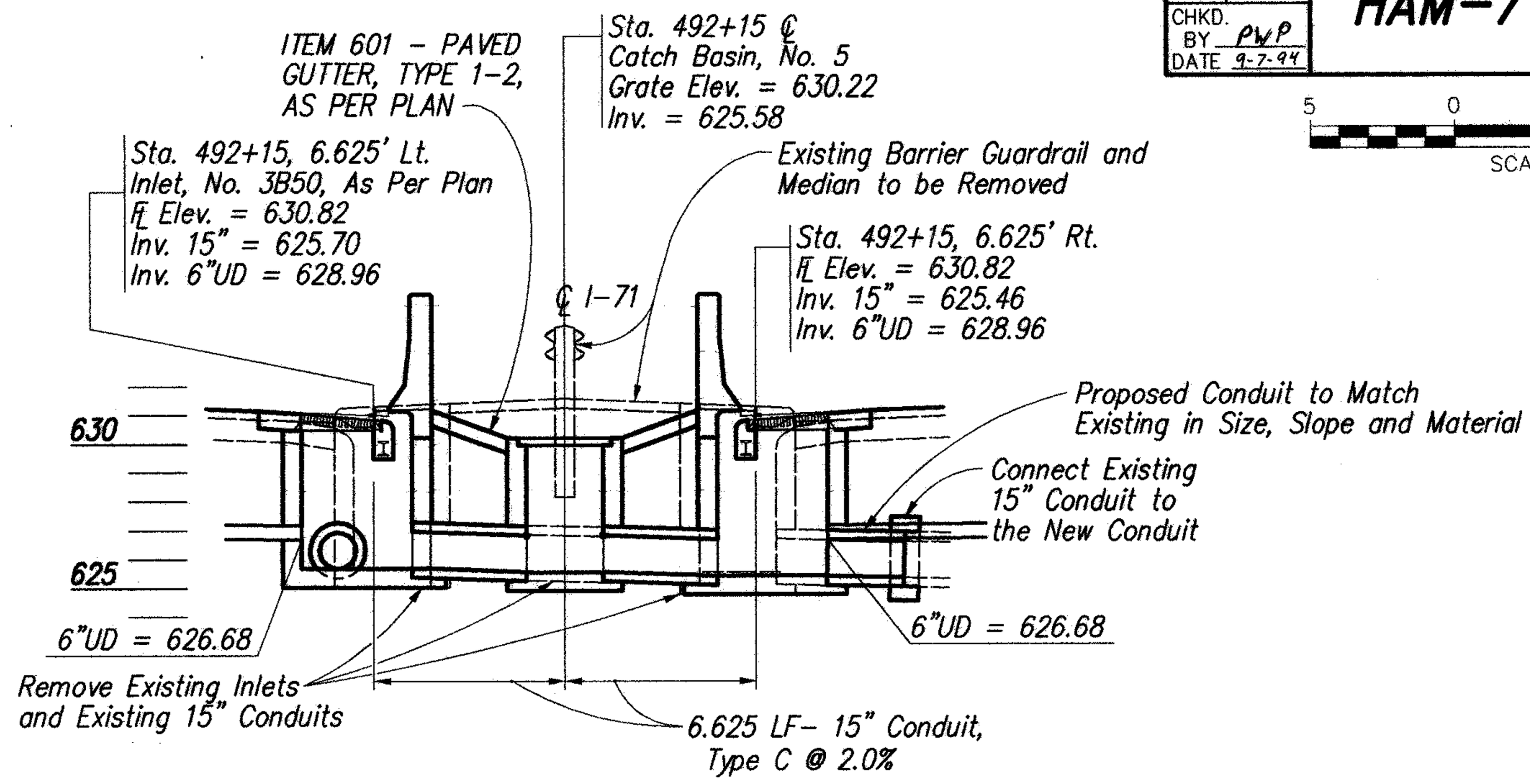
SCALE: 1" = 5'-0"

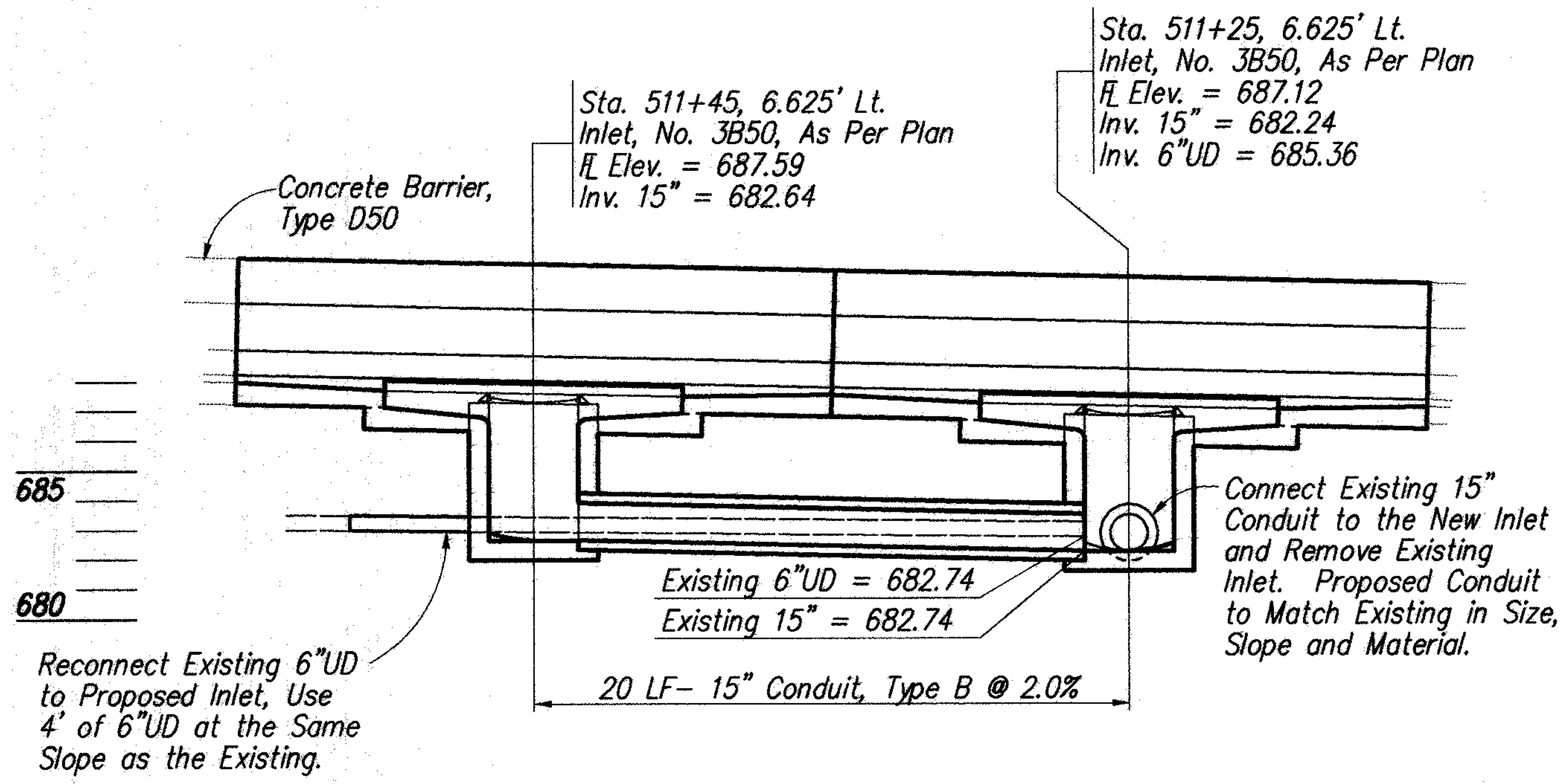




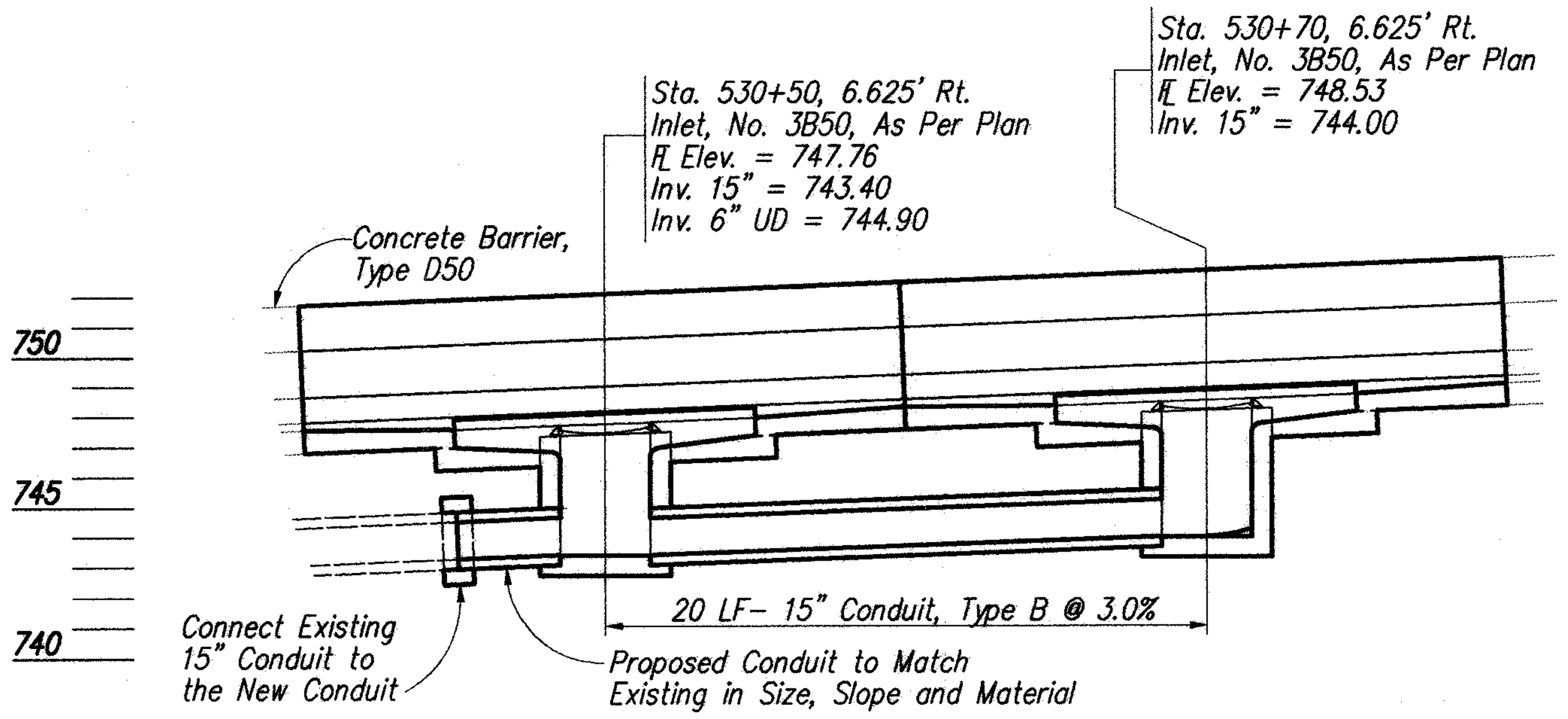


15D Sta. 492+35 I-71 (Rt. & Lt.) I-71 — Sta. 492+35 (Lt.) to Sta. 492+15 (Lt.) I-71 — Sta. 492+15 (Lt. & Rt.) I-71

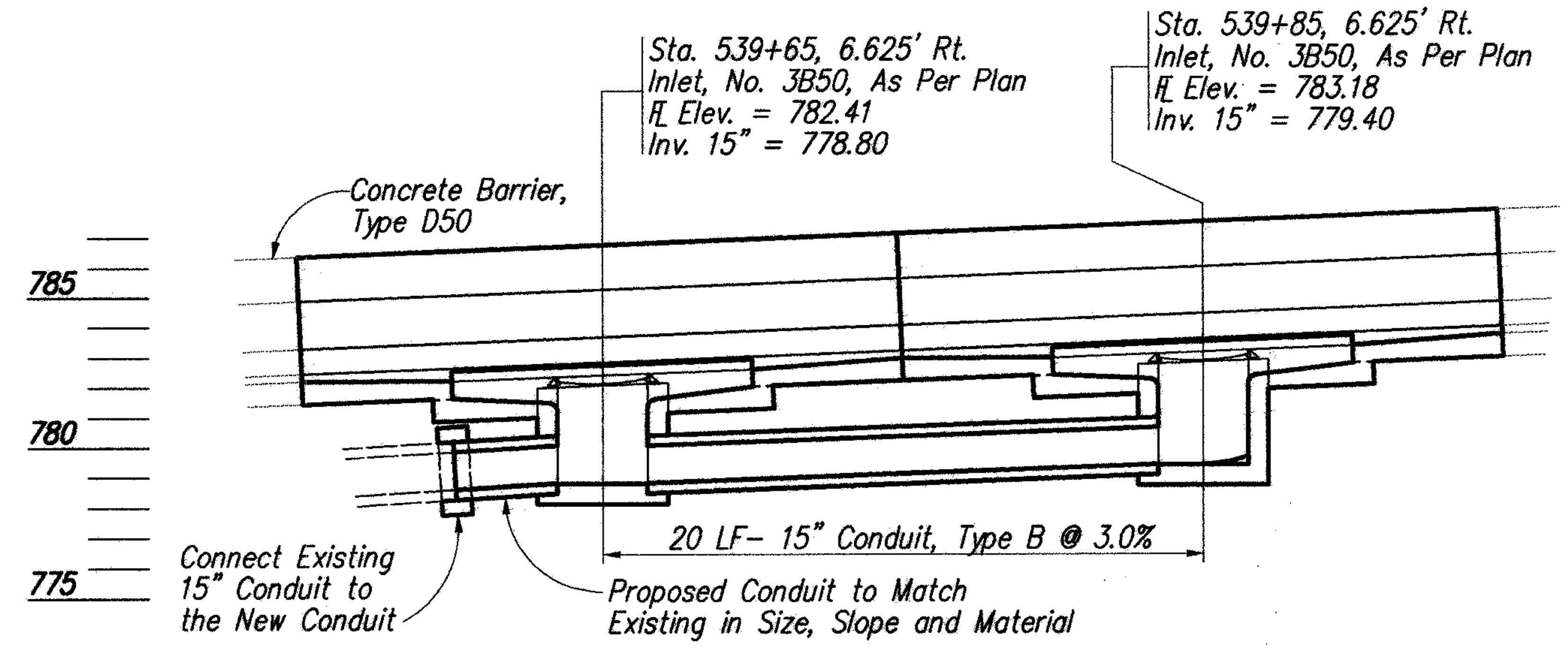
(Looking Down Station)



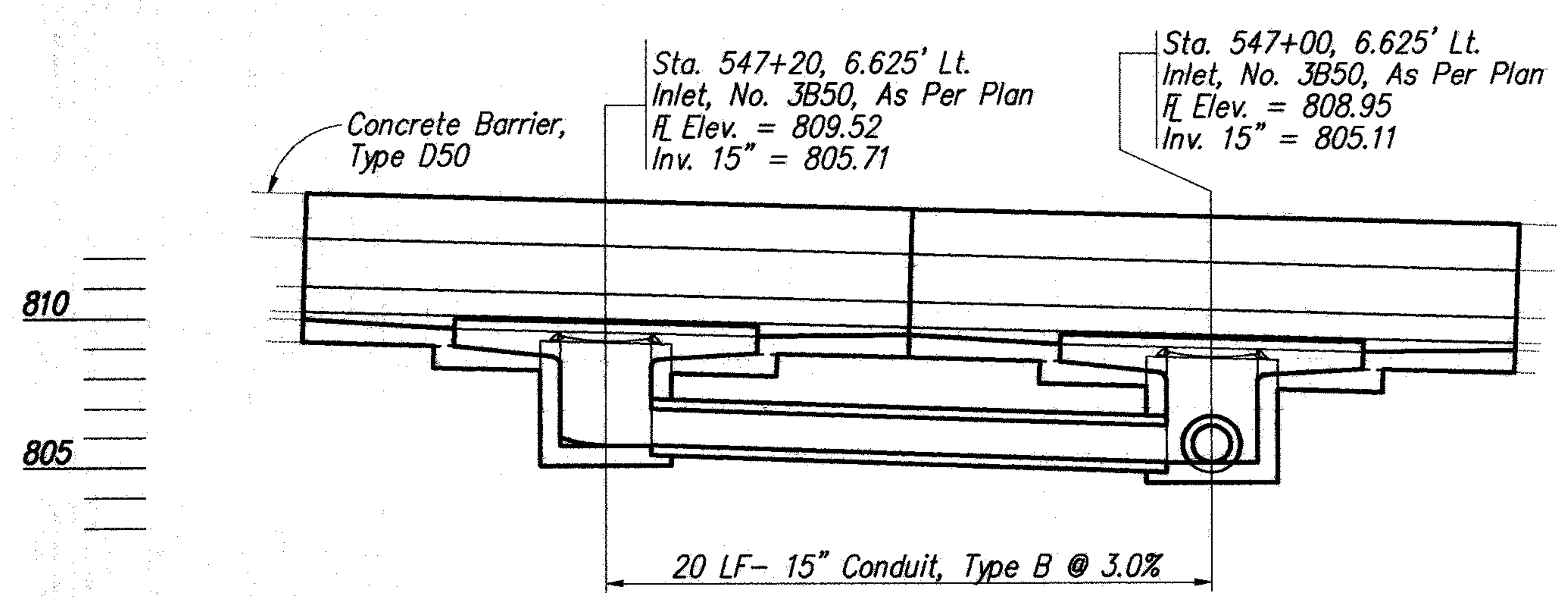
16D Sta. 511+45 (Lt.) to Sta. 511+25 (Lt.) I-71

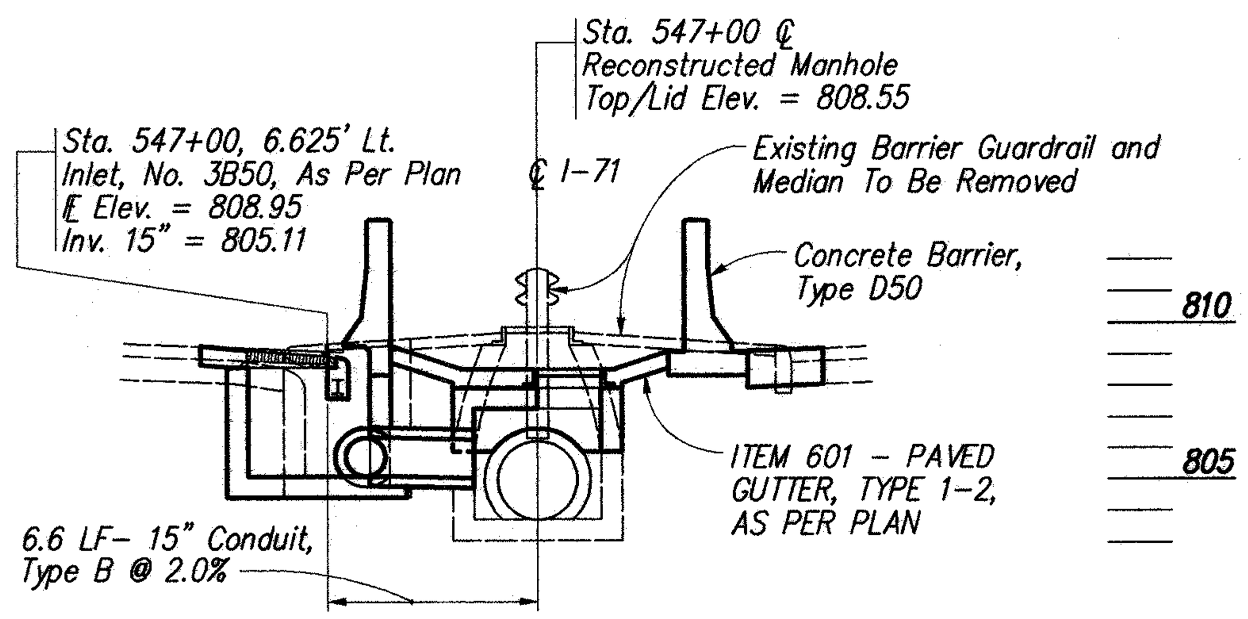


18D Sta. 530+50 (Rt.) to Sta. 530+70 (Rt.) I-71



21D Sta. 539+65 (Rt.) to Sta. 539+85 (Rt.) I-71





25D Sta. 547+20 (Lt.) to Sta. 547+00 (Lt.) I-71 — Sta. 547+00 (Lt.) to Sta 547+00 (℄) I-71

NOTES

1) Elevations Shown are based on the Profile Grade Elevations of the Original Construction Drawings.
2) For Pipe Profile Locations, See Plan Sheets.
3) For Further Information, See SECTION 2 Typical Sections Sheet 14-15 and SECTION 2 Plan Sheets 113-122.
4) For Further Inlet Information, See Drainage Details on Sheet 136B.

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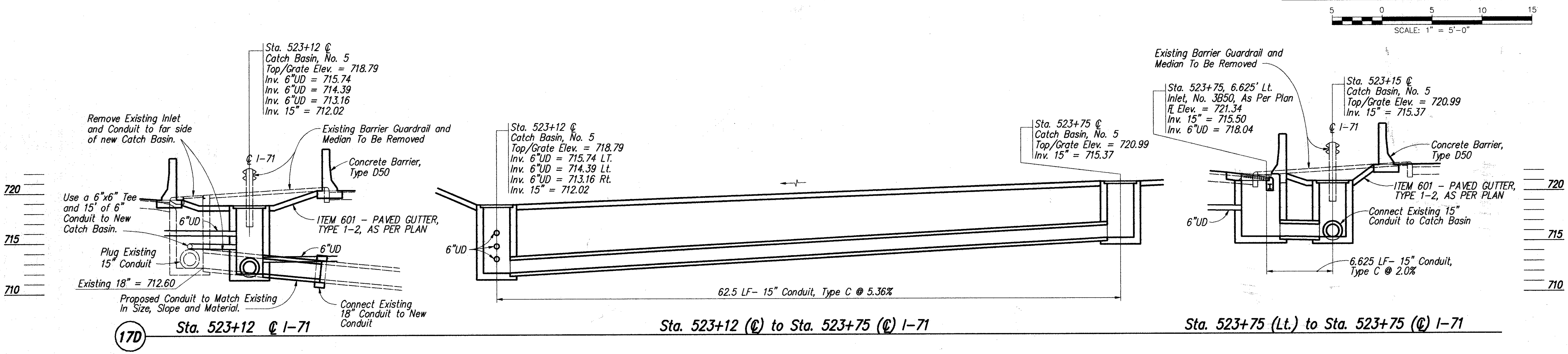

17D Sta. 523+12 ℄ I-71 — Sta. 523+12 (℄) to Sta. 523+75 (℄) I-71 — Sta. 523+75 (Lt.) to Sta. 523+75 (℄) I-71

NOTES

1) Elevations Shown are based on the Profile Grade Elevations of the Original Construction Drawings.
2) For Pipe Profile Locations, See Plan Sheets.
3) For Further Information, See SECTION 2 Typical Section Sheets 14-15 and SECTION 2 Plan Sheets 113-122.
4) For Further Inlet Information, See Drainage Details on Sheet 136B.

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GENERAL NOTES

POWER SERVICE

ELECTRICAL ENERGY FROM EXISTING POWER SERVICES SHALL CONTINUE TO BE CHARGED TO THE MAINTAINING AGENCY. THE CONTRACTOR SHALL PAY ELECTRICAL ENERGY CHARGES FOR NEW POWER SERVICES ESTABLISHED BY THIS PROJECT. AFTER ACCEPTANCE OF THE LIGHTING, POWER SERVICE ELECTRICAL ENERGY ACCOUNTS SHALL BE TRANSFERRED TO THE MAINTAINING AGENCIES NOTED IN THE PLANS.

THIS SHALL INCLUDE NEW POWER SERVICE ESTABLISHED BY THIS PROJECT AS WELL AS REASSIGNMENT OF EXISTING SERVICE DUE TO WORK PERFORMED BY THIS PROJECT.

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:
CINCINNATI GAS & ELECTRIC
SECTION 1 = 120/240 VOLT, 1 ø
SECTION 2 = 480 VOLT, 1 ø

UTILITY COMPANIES

C.G. & E. – GAS OPERATIONS
ENGINEERING AND PLANNING
P.O. BOX 960, RM. 460-A
CINCINNATI, OH 45201-0960

C.G. & E. – ELECTRIC OPERATIONS
CUSTOMER ACTIVITIES DEPT./
GOVERNMENTAL SERVICES
P.O. BOX 960, RM. 347-C
CINCINNATI, OH 45201-0960

CITY OF CINCINNATI
HIGHWAY ENGINEERING DEPT.
801 PLUM STREET
CINCINNATI, OHIO 45202

CITY OF CINCINNATI
TRAFFIC ENGINEERING DEPT.
705 CENTRAL AVE., RM. 200
CINCINNATI, OHIO 45202

CITY OF CINCINNATI
STORMWATER ENGINEERING
705 CENTRAL AVE., RM. 400
CINCINNATI, OHIO 45202

CINCINNATI WATER WORKS
ENGINEERING DIVISION
4747 SPRING GROVE AVE.
CINCINNATI, OHIO 45232

CINCINNATI BELL TELEPHONE
1717 DIXIE HIGHWAY, SUITE 800
FT. WRIGHT, KY 41011

METROPOLITAN SEWER DISTRICT
WASTEWATER ENGINEERING DEPT.
1600 GEST ST.
CINCINNATI, OH 45204

U.S. SPRINT COMMUNICATIONS
FIBER OPERATIONS
10265 SPARTAN DR. – UNIT M
CINCINNATI, OH 45215

WARNER CABLE COMMUNICATIONS
6709 VAN KIRK AVE.
CINCINNATI, OH 45216

UNDERGROUND UTILITIES

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE STATE OF OHIO AND CONSULTING ENGINEER MAKE NO GUARANTEES AS TO THEIR ACCURACY OR COMPLETENESS. REFER TO THE RIGHT OF WAY PLANS FOR ALL OTHER UTILITIES IN THE VINCINITY OF THIS PROJECT.

ALL UNDERGROUND UTILITIES, WATER, SEWER, TELEPHONE, GAS, TRAFFIC CONTROL, ETC. NEAR PROPOSED LIGHT POLES, PULL BOXES, ETC. SHALL BE STAKED BY THAT UTILITY COMPANY BEFORE CONSTRUCTION BEGINS.

VERIFICATION OF EXISTING CONDITIONS

THE ELECTRICAL CONTRACTOR SHALL VERIFY AND COORDINATE ALL UNDERGROUND LIGHTING AND TRAFFIC CONTROL DEVICES ON THE NORTH EAST CORNER OF THE EDEN PARK/READING ROAD INTERSECTION WITH THE CITY OF CINCINNATI DIVISION OF TRAFFIC.

DUE TO DEVIATION FROM AVAILABE EXISTING DRAWINGS AND THE QUANTITIES OF CONDUCTORS WITHIN EACH PULL BOX, IT WAS IMPOSSIBLE TO DETERMINE THE ACTUAL DISTRIBUTION OF EXISTING LIGHTING AND TRAFFIC CONTROL CIRCUITS WITHOUT TESTING OF THE CIRCUIT CONDUCTORS.

ELECTRICAL CONTRACTOR SHALL CONSULT WITH THE CITY OF CINCINNATI DIVISION OF TRAFFIC AND THE ENGINEER TO DETERMINE WHICH PULL BOXES AND CONDUCTORS SHALL BE MAINTAINED, AND WHICH SHALL BE REMOVED.

QUANTITIES INCLUDED IN THE SUB-SUMMARIES ARE ESTIMATED DUE TO THE LACK OF ACCURATE INFORMATION AVAILABLE.

UNDERDRAINS FOR PULL BOXES

REFERENCE IS MADE TO THE STANDARD DRAWINGS FOR DETAILS OF DRAINING PULL BOXES. UNDERDRAINS FOR PULL BOXES SHALL BE USED AS DIRECTED BY THE ENGINEER AND SHALL BE PROVIDED WHERE THE LENGTH REQUIRED FOR A SATISFACTORY OUTLET DOES NOT EXCEED APPROXIMATELY 20 FEET. AN ESTIMATED QUANTITY OF 2420 LINEAR FEET OF ITEM 603 "4 INCH CONDUIT TYPE E" IS INCLUDED IN THE LIGHTING GENERAL SUMMARY FOR THIS PURPOSE.

ITEM 713.14 – LAMPS

HIGH PRESSURE SODIUM LAMPS SHALL BE GENERAL ELECTRIC "LUCALOX", WESTINGHOUSE "CERAMALUX", SYLVANIA "LUMALUX" OR EQUAL APPROVED BY THE ENGINEER.

ITEM 625 – 713.11 LUMINAIRES

STYLE B LUMINAIRES SHALL HAVE SINGLE RATED INTEGRAL BALLASTS FOR THE VOLTAGE SPECIFIED FOR USE WITH HIGH PRESSURE SODIUM LAMPS AND SHALL BE GENERAL ELECTRIC M-400, CROUSE-HINDS OVM, AMERICAN 25/26 OR EQUAL APPROVED BY THE ENGINEER.

PADLOCKS AND KEYS

PADLOCKS FURNISHED SHALL BE EITHER BRASS OR BRONZE, EQUAL TO NO. 4BKA OR WILSON BOHANNAN 660A, AND SHALL BE KEYED IN ACCORDANCE WITH SPECIFICATION 631.08. PAYMENT SHALL BE INCLUDED IN THE BID FOR THE ITEM(S) BEING LOCKED.

ITEM 202 – PULL BOX REMOVED

THIS ITEM SHALL INCLUDE REMOVING THE PULL BOX TO ONE FOOT (1') BELOW THE GROUND LEVEL [THREE FEET (3') BELOW THE GROUND LEVEL WHERE PULL BOX IS TO BE REPLACED WITH A NEW CONCRETE PULL BOX] AND RESTORING THE DISTURBED AREA. WHERE A PULLBOX IS TO BE REPLACED WITH A NEW CONCRETE PULL BOX, IT IS THE INTENT OF THIS NOTE TO CUT ALL CONDUITS IN A NEAT FASHION IN ORDER TO REUSE THE EXISTING CONDUITS IN PLACE. CARE SHALL BE TAKEN NOT TO DAMAGE EXISTING CIRCUIT CONDUCTORS IF THEY ARE TO BE REUSED.

PAYMENT SHALL BE PER EACH ITEM 202 – " PULL BOX REMOVED".

ITEM 202 – LIGHT POLE REMOVED

THIS ITEM SHALL INCLUDE REMOVING AND DISPOSING OF THE LIGHT POLE, BRACKET ARM, BASE AND POLE AND BRACKET WIRING.

PAYMENT SHALL BE PER EACH ITEM 202 – "LIGHT POLE REMOVED".

ITEM 202 – LIGHT POLE FOUNDATION REMOVED

THIS ITEM SHALL INCLUDE REMOVING THE LIGHT POLE, CONCRETE FOUNDATION TO A DEPTH OF ONE FOOT (1') BELOW GROUND LEVEL, TWO FEET (2') BELOW GROUND LEVEL WHERE IT WOULD INTERFERE WITH PROPOSED TRENCHING AND THREE FEET (3') BELOW GROUND LEVEL WHERE THE FOUNDATION IS TO BE REPLACED BY A PULL BOX, AND RESTORING THE DISTURBED AREA.

PAYMENT SHALL BE PER EACH ITEM 202 – "LIGHT POLE FOUNDATION REMOVED".

625 LIGHTING MISC.

ITEM ~~SPECIAL~~ – REMOVE BRACKET ARM

THIS ITEM SHALL INCLUDE REMOVING AND DISPOSING OF THE BRACKET ARM FROM THE LOCATION SHOWN ON THE PLANS.

PAYMENT SHALL BE PER EACH ITEM – ~~SPECIAL~~ 625 "REMOVE BRACKET ARM", AS PER PLAN.

ITEM 625 – LIGHT POLE ANCHOR U-BOLTS, AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING LIGHT POLE ANCHOR U-BOLTS AS PER STANDARD DRAWING HL-10.13 EXCEPT AS DETAILED ON SHEET 227/401.

PAYMENT FOR THIS ITEM SHALL BE PER EACH "ITEM 625 – LIGHT POLE ANCHOR U-BOLTS, AS PER PLAN" AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO PROVIDE LIGHT POLE ANCHOR U-BOLTS AS SPECIFIED HEREIN.

ITEM 632 – COMBINATION STRAIN POLE, TYPE TC-81.10, DESIGN 3, AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING A COMBINATION STRAIN POLE WITH A LUMINAIRE MOUNTING HEIGHT OF 35' NOMINAL AND AS DETAILED IN THESE PLANS. LUMINAIRE AND BRACKET ARM SHALL BE PAID FOR SEPARATELY UNDER ITEM 625 – REERECT LUMINAIRE AS PER PLAN", ITEM 625 – "BRACKET ARM, 10'" AND ITEM 625 – "BRACKET ARM, 15'" AS REQUIRED.

PAYMENT FOR THIS ITEM SHALL BE PER EACH "ITEM 632 – COMBINATION STRAIN POLE, TYPE TC-81.10, DESIGN 3, AS PER PLAN" AND SHALL INCLUDE ALL EQUIPMENT, LABOR, AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE PROVIDED AND CONSIDERED PAID FOR AS PART OF THIS ITEM.

625 LIGHTING, MISC.

ITEM ~~SPECIAL~~ – DISCONNECTION OF MESSENGER CABLE

THIS ITEM SHALL CONSIST OF DISCONNECTING THE 5/16" MESSENGER CABLE SUPPORTING ONE TRAFFIC SIGNAL AND ONE DIRECTIONAL SIGN FROM THE COMBINATION STRAIN POLE. AFTER NEW COMBINATION STRAIN POLE IS IN PLACE, TEMPORARY SUPPORT SHALL BE REMOVED. CARE SHALL BE TAKEN TO MAINTAIN MESSENGER CABLE IN EXISTING CONDITION FOR REUSE.

PAYMENT FOR THIS ITEM SHALL BE PER EACH "ITEM ~~SPECIAL~~ 625 DISCONNECTION OF MESSENGER CABLE AND SUPPORT AS PER PLAN" AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE PROVIDED AND CONSIDERED PAID FOR AS PART OF THIS ITEM.

625 LIGHTING, MISC.

ITEM ~~SPECIAL~~ – DISCONNECTION OF TRAFFIC CONTROL CIRCUITS AND RELOCATION

THIS ITEM SHALL CONSIST OF DISCONNECTING ALL TRAFFIC CONTROL CIRCUITS WITHIN THE TRANSFORMER ENCLOSURE, LIGHT POLE BASE OR TRAFFIC CONTROL PULL BOX AND RELOCATING THE CIRCUITS TO PROVIDE TEMPORARY CONTROL OF THE EXISTING TRAFFIC CONTROL SIGNALS. AFTER NEW POWER SERVICE OR NEW COMBINATION STRAIN POLE AND NEW TRAFFIC CONTROL CIRCUITRY IS IN PLACE, TEMPORARY CONTROL OF THE EXISTING TRAFFIC CONTROL SIGNALS SHALL BE REMOVED.

PAYMENT FOR THIS ITEM SHALL BE PER EACH "ITEM ~~SPECIAL~~ 625 – DISCONNECTION OF TRAFFIC CONTROL CIRCUITS AND RELOCATION" AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE PROVIDED AND CONSIDERED PAID FOR AS PART OF THIS ITEM.

ITEM 632 – REUSE OF MESSENGER CABLE, AS PER PLAN

THIS ITEM SHALL CONSIST OF REUSING THE EXISTING 5/16" MESSENGER CABLE. WORK REQUIRED SHALL INCLUDE REMOVING THE MESSENGER CABLE FROM THE TEMPORARY SUPPORT AND ATTACHING THE MESSENGER CABLE TO THE NEW COMBINATION STRAIN POLE.

PAYMENT FOR THIS ITEM SHALL BE PER EACH "ITEM 632 – REUSE OF MESSENGER CABLE, AS PER PLAN" AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

625 LIGHTING, MISC.

ITEM ~~SPECIAL~~ – REFURBISH CONDUIT STUB OUT

THIS ITEM SHALL CONSIST OF REFURBISHING THE EXISTING DAMAGED CONDUIT STUB OUT THAT IS EXPOSED ABOVE GRADE. WORK REQUIRED SHALL INCLUDE CUTTING AND REMOVING THE DAMAGED PORTION OF THE CONDUIT, PROVIDING A CONDUIT COUPLING AND TWO 90° CONDUIT ELBOWS TO ENABLE THE ENTRY OF NEW DUCT CABLE 24" BELOW FINISHED GRADE.

PAYMENT FOR THIS ITEM SHALL BE PER EACH "ITEM ~~SPECIAL~~ 625 REFURBISH CONDUIT STUB OUT" AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

625 LIGHTING, MISC.

ITEM ~~SPECIAL~~ – WIRE TERMINATION AT PILASTERS

THIS ITEM OF WORK SHALL CONSIST OF PREPARING AN EXISTING BRIDGE PILASTER FOR ABANDONMENT. ALL WIRING SHALL BE PULLED INTO AN ADJACENT JUNCTION BOX AND THE ENDS TAPED IF THE WIRES ARE NOT TO BE REMOVED AS PER ITEM ~~SPECIAL~~ "EXISTING CONDUIT CLEANED". CONDUIT AND ANCHOR BOLTS SHALL BE CUT FLUSH WITH THE TOP OF THE PILASTER. CONDUIT SHALL THEN BE PLUGGED WITH CONCRETE FLUSH WITH THE PILASTER. ALL MATERIALS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF THE PROJECT SITE.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH ITEM ~~SPECIAL~~ 625 "WIRE TERMINATION AT PILASTER" AND SHALL BE FULL COMPENSATION INCLUDING ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK IN A SATISFACTORY WORKMANLIKE MANNER.

625 LIGHTING, MISC.

ITEM ~~SPECIAL~~ – WIRE TERMINATION AT RETAINING WALL

THIS ITEM OF WORK SHALL CONSIST OF PREPARING AN EXISTING RETAINING WALL PILASTER FOR ABANDONMENT. ALL WIRING SHALL BE CUT AND ENDS TAPED IF THE WIRES ARE NOT TO BE REMOVED AS PER ITEM SPECIAL "EXISTING CONDUIT CLEANED" AND PUSHED INSIDE THE EXISTING CONDUIT. CONDUIT AND ANCHOR BOLTS SHALL BE CUT FLUSH WITH THE TOP OF THE PILASTER. CONDUIT SHALL THEN BE PLUGGED WITH CONCRETE FLUSH WITH THE RETAINING WALL. ALL MATERIALS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF THE PROJECT SITE.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH ITEM ~~SPECIAL~~ 625 "WIRE TERMINATION AT RETAINING WALL" AND SHALL BE FULL COMPENSATION INCLUDING ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK IN A SATISFACTORY WORKMANLIKE MANNER.

ITEM SPECIAL – DISCONNECT EXISTING CIRCUIT

THIS ITEM OF WORK SHALL CONSIST OF THE DISCONNECTION OF AN EXISTING LIGHT CIRCUIT AT A PULL BOX OR AT A LIGHT POLE.

DISCONNECTION AT A PULL BOX OR POLE BASE SHALL INVOLVE CUTTING THE EXISTING CIRCUIT AND REMOVING ALL CONNECTOR KITS. ANY CABLE THAT IS TO BE ABANDONED SHALL BE TERMINATED IN A MANNER SUCH THAT NO CABLE IS LEFT REMAINING IN THE PULL BOX OR POLE BASE. ANY CABLE THAT IS TO BE REUSED SHALL BE CUT IN A MANNER SO THAT THERE IS SUFFICIENT LENGTH OF CABLE LEFT FOR RECONNECTION.

CONNECTIONS SHALL BE PAID FOR UNDER EACH ITEM 625 "CABLE SPLICING KIT" IN PULL BOXES, OR ITEM 625 "CONNECTOR KITS" IN LIGHT POLES.

PAYMENT WILL BE MADE AT THE UNIT BID PROVIDED FOR EACH ITEM SPECIAL "DISCONNECT EXISTING CIRCUIT" AND SHALL BE FULL COMPENSATION INCLUDING ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THE WORK IN A SATISFACTORY WORKMANLIKE MANNER.

625 CONDIT MISC.,

ITEM ~~SPECIAL~~ – EXISTING CONDUIT CLEANED

THIS ITEM SHALL INCLUDE LOCATING THE EXISTING CONDUIT, CUTTING IT, AND REAMING ANY BURRS TO PROVIDE A FREE RACEWAY FOR THE PROPOSED OR FUTURE 1 1/2" DUCT CABLE OR DISTRIBUTION CABLE. AT LOCATIONS WHERE LIGHT POLE FOUNDATIONS OR PULL BOXES ARE TO BE REMOVED, CONDUIT SHOULD BE CUT PRIOR TO REMOVAL TO PREVENT DAMAGE TO THE CONDUIT.

IT SHALL ALSO CONSIST OF REMOVING ANY MUD, DEBRIS, AND WIRE IN THE EXISTING CONDUIT TO THE SATISFACTION OF THE ENGINEER BEFORE NEW DUCT CABLE OR DISTRIBUTION CABLE IS PULLED THROUGH IT. IF CONDUIT WILL NOT BE REUSED AS PART OF THIS PROJECT IT SHALL BE CLEANED AS DESCRIBED ABOVE AND BE PROVIDED WITH NO. 12 AWG PULL WIRE, THEN CAPPED AND SEALED FOR FUTURE USE.

PAYMENT SHALL BE PER EACH ITEM ~~SPECIAL~~ 625 – "EXISTING CONDUIT CLEANED". CONDUIT MISC.

ITEM 625 – MEDIAN LIGHT POLE FOUNDATION, 8' DEEP, AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING A MEDIAN LIGHT POLE FOUNDATION, 8' DEEP, AS PER STANDARD DRAWING HL-20.13 EXCEPT AS DIMENSIONED ON SHEET 227/401.

PAYMENT FOR THIS ITEM SHALL BE PER EACH "ITEM 625 – MEDIAN LIGHT POLE FOUNDATION, 8' DEEP, AS PER PLAN" AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO PROVIDE LIGHT POLE FOUNDATION AS SPECIFIED HEREIN.

ITEM 625 – MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING A MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER STANDARD DRAWING HL-20.13 EXCEPT AS DIMENSIONED ON SHEET 227/401.

PAYMENT FOR THIS ITEM SHALL BE PER EACH "ITEM 625 – MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN" AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO PROVIDE LIGHT POLE FOUNDATION AS SPECIFIED HEREIN.

GENERAL NOTES

ITEM 202 – REMOVE POWER SERVICE "A", AS PER PLAN

THIS ITEM SHALL CONSIST OF REMOVING THE EXISTING CONTROL CENTER FROM THE EXISTING TRANSFORMER ENCLOSURE FOR DISPOSAL OFF THE PROJECT SITE.

THE UNIT PRICE BID FOR EACH ITEM 202 – "REMOVE POWER SERVICE "A", AS PER PLAN" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO REMOVE POWER SERVICE.

ITEM 202 – REMOVE POWER SERVICE "B", AS PER PLAN

THIS ITEM SHALL CONSIST OF REMOVING THE EXISTING CONTROL CENTER AND ASSOCIATED CONDUITS FROM THE EXISTING CONTROL CENTER STRUCTURE FOR DISPOSAL OFF THE PROJECT SITE. EXISTING CONTROL CENTER STRUCTURE IS FABRICATED FROM 3" RIGID GALVANIZED STEEL CONDUIT AND ANGLE IRON.

THE UNIT PRICE BID FOR EACH ITEM 202 – "REMOVE POWER SERVICE "B", AS PER PLAN" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO REMOVE POWER SERVICE.

ITEM 202 – EXISTING CONDUIT REMOVED, ~~AS PER PLAN~~

THIS ITEM SHALL CONSIST OF CUTTING THE EXISTING STRUCTURE MOUNTED CONDUIT AND REMOVING THE UNUSED PORTION FROM THE SITE FOR DISPOSAL. THE CONDUIT STUB PROTRUDING FROM THE DECK SHALL BE SEALED FOR ABANDONMENT.

THE UNIT PRICE BID FOR EACH ITEM 202 – "EXISTING CONDUIT REMOVED, ~~AS PER PLAN~~" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO REMOVE EXISTING CONDUIT AS SPECIFIED HEREIN.

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ITEM 625 – POWER SERVICE, AS PER PLAN

POWER SERVICE EQUIPMENT SHALL BE INSTALLED AS SPECIFIED IN THE ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS AND AS DETAILED IN THESE PLANS. ENCLOSURE TYPES SHALL BE AS PER STANDARD CONSTRUCTION DRAWING HL-40.10. THE CONTRACTOR SHALL PAY ANY UTILITY COMPANY FEES ASSOCIATED WITH THE INSTALLATION AND REARANGEMENT OF POWER COMPANY EQUIPMENT NEEDED TO ESTABLISH A 480 OR 120/240 VOLT ELECTRICAL SERVICE AS SPECIFIED HEREIN. *

ITEM 625 – POWER SERVICE "A", AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ALL EQUIPMENT NECESSARY TO PROVIDE COMPLETE ELECTRICAL SERVICE TO ROADWAY LIGHTING AND SIGNING INSIDE OF THE EXISTING TRANSFORMER ENCLOSURE. MOUNT REMOTE PHOTOCELL AS SHOWN ON THE PLANS. EXISTING PRIMARY SERVICE SHALL BE REUSED.

POWER SERVICE COMPONENTS SHALL CONFORM TO THE REQUIREMENTS OF 713.19 AND DETAILS SHOWN ON THE PLANS AND STANDARD DRAWINGS. THE CONTRACTOR SHALL ALSO MAKE ALL NECESSARY ARRANGEMENTS WITH THE POWER SUPPLYING AGENCY FOR ELECTRICAL SERVICE CONNECTIONS.

PAYMENT FOR THIS ITEM SHALL BE PER EACH ITEM 625 – "POWER SERVICE "A", AS PER PLAN" AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE PROVIDED AND CONSIDERED PAID FOR AS PART OF THIS ITEM.

* SENTENCE ABOVE ALSO APPLIES TO POWER SERVICE "A", AS PER PLAN.

ITEM 625 – POWER SERVICE "B", AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ALL EQUIPMENT NECESARY TO PROVIDE COMPLETE ELECTRICAL SERVICE TO ROADWAY LIGHTING AND SIGNING INSIDE OF THE EXISTING TRANSFORMER ENCLOSURE. MOUNT REMOTE PHOTOCELL AS SHOWN ON THE PLANS. EXISTING PRIMARY SERVICE SHALL BE REUSED. TRAFFIC CONTROLLER CIRCUIT SHALL BE MAINTAINED AT ALL TIMES. ANY INTERRUPTION OF POWER TO THE TRAFFIC CONTROLLER CIRCUIT SHALL BE COORDINATED WITH THE CITY OF CINCINNATI, DIVISION OF TRAFFIC. REFER TO PAY ITEM FOR "MAINTAIN TRAFFIC CONTROLLER CIRCUIT".

POWER SERVICE COMPONENTS SHALL CONFORM TO THE REQUIREMENTS OF 713.19 AND DETAILS SHOWN ON THE PLANS AND STANDARD DRAWINGS. THE CONTRACTOR SHALL ALSO MAKE ALL NECESSARY ARRANGEMENTS WITH THE POWER SUPPLYING AGENCY FOR ELECTRICAL SERVICE CONNECTIONS.

PAYMENT FOR THIS ITEM SHALL BE PER EACH ITEM 625 – "POWER SERVICE "B", AS PER PLAN" AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE PROVIDED AND CONSIDERED PAID FOR AS PART OF THIS ITEM.

* SENTENCE ABOVE ALSO APPLIES TO POWER SERVICE "B", AS PER PLAN.

ITEM 625 – POWER SERVICE "C", AS PER PLAN

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ALL EQUIPMENT NECESSARY TO PROVIDE COMPLETE ELECTRICAL SERVICE TO ROADWAY LIGHTING AND SIGNING. POWER SERVICE COMPONENTS SHALL CONFORM TO THE REQUIREMENTS OF 713.19 AND THE STANDARD DRAWINGS. IN LIEU OF WOOD SERVICE POLES, ALL COMPONENTS SHALL BE MOUNTED ON THE EXISTING CONTROL CENTER STRUCTURE WHICH IS FABRICATED FROM 3" RIGID GALVANIZED STEEL CONDUIT AND ANGLE IRON. THE CONTRACTOR SHALL ALSO MAKE ALL NECESSARY ARRANGEMENTS WITH THE POWER SUPPLYING AGENCY FOR ELECTRICAL SERVICE CONNECTIONS.

PAYMENT FOR THIS ITEM SHALL BE PER EACH ITEM 625 – "POWER SERVICE "C", AS PER PLAN" AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE PROVIDED AND CONSIDERED PAID FOR AS PART OF THIS ITEM.

* SENTENCE ABOVE ALSO APPLIES TO POWER SERVICE "C", AS PER PLAN.

ELECTRIC SERVICE

ELECTRIC SERVICE SHALL BE INSTALLED AS DESCRIBED BELOW. AN ESTIMATED QUANTITY OF THE FOLLOWING ITEMS SHALL BE INCLUDED IN THE GENERAL SUMMARY FOR COMPLETION OF THIS WORK;

TRENCH	25 LINEAR FEET
NO. 4 AWG, 5000 VOLT DISTRIBUTION CABLE	575 LINEAR FEET
CONDUIT, 3" 713.04	30 LINEAR FEET
NO. 2 AWG, 5000 VOLT DISTRIBUTION CABLE	175 LINEAR FEET
EXISTING CONDUIT CLEANED	1 EACH

THE ELECTRICAL CONTRACTOR SHALL EXTEND TRENCHING AND DISTRIBUTION CABLE IN EXISTING 3" CONDUIT, PROPOSED 3" CONDUIT OR IN 3" CONDUIT JACKED OR DRILLED UNDER PAVEMENT TO A UTILITY POLE COORDINATED WITH THE UTILITY TO PROVIDE A 240 VOLT ELECTRICAL SERVICE. A 35 FOOT COIL SHALL BE PROVIDED AT THE BASE OF POLE FOR FINAL CONNECTION BY THE UTILITY COMPANY. PAYMENT MADE FOR THE ABOVE ITEMS SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

ELECTRIC SERVICE CONNECTION

THIS ITEM SHALL CONSIST OF INSTALLATION AND CONNECTION OF A NEW CIRCUIT TO THE REMAINING PORTION OF AN EXISTING CIRCUIT. CARE SHALL BE TAKEN NOT TO DAMAGE THE EXISTING CONDUCTORS.

CABLE SPLICING KITS SHALL BE PAID FOR SEPARATELY UNDER EACH ITEM 625 "CABLE SPLICING KIT". PAYMENT SHALL BE PER EACH "ELECTRIC SERVICE CONNECTION" AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO MAKE THE ELECTRICAL SERVICE CONNECTION AS SPECIFIED HEREIN.

CONDUIT ON STRUCTURES

EXPANSION FITTINGS FOR CONDUIT ON STRUCTURES SHALL BE OZ TYPE AX, SPRING CITY TYPE AF, APPLETON TYPE XJ-4, OR EQUAL APPROVED BY THE ENGINEER FOR BRIDGE NO.

SEE NOTE ON SHEET 144A FOR CONTINGENCY QUANTITIES.

SERVICE TO UNDERPASS LIGHTING REFURBISHED, AS PER PLAN

THIS ITEM SHALL CONSIST OF REFURBISHING THE EXISTING SERVICE TO THE UNDERPASS LIGHTING. WORK SHALL INCLUDE REMOVAL OF ALL EXISTING CONDUCTORS FEEDING THE UNDERPASS LIGHTING SYSTEM, PROVIDING NEW #10 AWG POLE AND BRACKET CABLE BETWEEN ALL UNDERPASS LUMINAIRES AND PROVIDING NEW #4 AWG DISTRIBUTION CABLE FROM THE PULL BOX, JUNCTION BOX OR BARRIER JUNCTION BOX TO THE FIRST JUNCTION BOX OR UNDERPASS LUMINAIRE.

THE UNIT PRICE BID FOR EACH ITEM 625 – "SERVICE TO UNDERPASS LIGHTING REFURBISHED, AS PER PLAN" SHALL INCLUDE PAYMENT FOR ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE PROVIDED AND CONSIDERED PAID FOR AS PART OF THIS ITEM.

ITEM 625 – SERVICE TO UNDERPASS LIGHTING

THIS ITEM SHALL CONSIST OF PROVIDING COMPLETE ELECTRICAL SERVICE EXCEPT FOR LUMINAIRES AND STRUCTURE GROUNDING, FOR AN UNDERPASS LIGHTING SYSTEM. THE INSTALLATION WORK SHALL INCLUDE CONDUITS, CONDUIT GROUNDING, MOUNTINGS, FITTINGS, JUNCTION BOXES, CABLES, AND ALL INCIDENTALS NECESSARY TO COMPLETE, READY FOR USE, THE SERVICES AS SPECIFIED HEREIN.

THE UNIT PRICE BID FOR EACH ITEM 625 – "SERVICE TO UNDERPASS LIGHTING" SHALL INCLUDE PAYMENT FOR ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE PROVIDED AND CONSIDERED PAID FOR AS PART OF THIS ITEM.

ITEM 625 – SERVICE TO UNDERPASS LIGHTING "A", AS PER PLAN

THIS ITEM SHALL INCLUDE REMOVAL OF ALL CONDUCTORS FEEDING THE UNDERPASS LIGHTING SYSTEM AND CUTTING THE EXISTING 2" CONDUIT PROTRUDING FROM THE DECK BELOW THE BARRIER MOUNTED JUNCTION BOX FLUSH WITH THE UNDERSIDE OF DECK AND SEALING CONDUIT IN DECK. CONTRACTOR SHALL REMOVE REMAINING 2" CONDUIT BACK TO THE FIRST JUNCTION BOX FEEDING THE UNDERPASS LIGHTING AND PROVIDE A 12" X 8" X 6" SURFACE MOUNTED JUNCTION BOX AT THE ABANDONED CONDUIT LOCATION. PROVIDE 2" GALVANIZED CONDUIT AND NEW #4 AWG DISTRIBUTION CABLE FROM THE PROPOSED JUNCTION BOX TO THE FIRST JUNCTION BOX FEEDING THE UNDERPASS LIGHTING. PROVIDE NEW #10 AWG POLE AND BRACKET CABLE BETWEEN ALL UNDERPASS LUMINAIRES. THE INSTALLATION WORK SHALL INCLUDE CONDUITS, CONDUIT GROUNDING, MOUNTING, FITTINGS, JUNCTION BOXES, CABLES AND ALL INCIDENTALS NECESSARY TO COMPLETE, READY FOR USE, THE SERVICE AS SPECIFIED HEREIN.

THE UNIT PRICE BID FOR EACH ITEM 625 – "SERVICE TO UNDERPASS LIGHTING "A", AS PER PLAN" SHALL INCLUDE PAYMENT FOR ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE PROVIDED AND CONSIDERED PAID FOR AS PART OF THIS ITEM.

ITEM 625–SERVICE TO UNDERPASS LIGHTING "B", AS PER PLAN

THIS ITEM SHALL CONSIST OF REMOVING THE EXISTING EXPOSED CONDUIT FEEDING THE UNDERPASS LUMINAIRE AND PROVIDING A NEW SERVICE TO UNDERPASS LIGHTING.

WORK SHALL INCLUDE CUTTING THE EXISTING CONDUIT FLUSH WITH TOP OF COLUMN AT PIER NO. 6 AND FLUSH WITH BOTTOM OF DECK OF BRIDGE NO. HAM-71-0447. REMOVE ALL CONDUIT BETWEEN TOP OF COLUMN AND BRIDGE DECK. SEAL CONDUIT OPENINGS AND PREPARE FOR ABANDONMENT. REMOVE EXISTING UNDERPASS LUMINAIRE.

SURFACE MOUNT A 8"X6"X6" JUNCTION BOX ONTO THE EXISTING JUNCTION BOX. PROVIDE SERVICE TO UNDERPASS LIGHTING AS SPECIFIED IN GENERAL NOTE "ITEM 625–SERVICE TO UNDERPASS LIGHTING". REINSTALL LUMINAIRE AND MAKE FINAL CONNECTIONS.

THE UNIT PRICE BID FOR EACH ITEM 625 – "SERVICE TO UNDERPASS LIGHTING "B", AS PER PLAN", SHALL INCLUDE PAYMENT FOR ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE PROVIDED AND CONSIDERED PAID FOR AS PART OF THIS ITEM.

ITEM 625 – SERVICE TO UNDERPASS LIGHTING "C", AS PER PLAN

THIS ITEM SHALL INCLUDE REMOVAL OF ALL CONDUCTORS FEEDING THE UNDERPASS LIGHTING SYSTEM AND CUTTING THE EXISTING 1 1/2" CONDUIT PROTRUDING FROM THE DECK BELOW THE BARRIER MOUNTED JUNCTION BOX FLUSH WITH THE UNDERSIDE OF DECK AND SEALING CONDUIT IN DECK. CONTRACTOR SHALL REMOVE REMAINING CONDUIT BACK TO THE UNDERPASS LUMINAIRE. PROVIDE SERVICE TO UNDERPASS LIGHTING AS SPECIFIED IN GENERAL NOTE "ITEM 625 – SERVICE TO UNDERPASS LIGHTING".

PAYMENT FOR THIS ITEM SHALL BE PER EACH "ITEM 625 – SERVICE TO UNDERPASS LIGHTING "C", AS PER PLAN" AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE PROVIDED AND CONSIDERED PAID FOR AS PART OF THIS ITEM.

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REFURBISH SIGN SERVICE "A", AS PER PLAN

THIS ITEM SHALL INCLUDE DISCONNECTING THE LINE SIDE OF THE CIRCUIT WIRING IN THE SIGN SWITCH ENCLOSURE AND REMOVING CIRCUIT WIRING BETWEEN SWITCH ENCLOSURE AND PULL BOX OR JUNCTION BOX. CONTRACTOR SHALL PROVIDE NEW NO. 4 AWG CIRCUIT WIRING IN EXISTING CONDUIT BETWEEN PULL BOX AND SWITCH ENCLOSURE AND RECONNECT. SIGNS CONTROLLED WITH A PHOTOCELL SHALL HAVE THE PHOTOCELL BYPASSED. PHOTOCELL AND ASSOCIATED WIRING SHALL BE REMOVED.

THE UNIT PRICE BID FOR ITEM 625 – "REFURBISH SIGN SERVICE "A", AS PER PLAN" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO REFURBISH SIGN SERVICE AS SPECIFIED HEREIN.

REFURBISH SIGN SERVICE "B", AS PER PLAN

THIS ITEM SHALL INCLUDE DISCONNECTING THE LINE SIDE OF THE CIRCUIT WIRING IN THE SIGN SWITCH ENCLOSURE AND REMOVING CIRCUIT WIRING BETWEEN SWITCH ENCLOSURE AND PULL BOX. CONTRACTOR SHALL LOCATE, CUT AND CLEAN THE EXISTING SIGN SERVICE CONDUITS, EXTEND A 2" CONDUIT FROM THE PROPOSED MEDIAN PULL BOX TO THE EXISTING SIGN SERVICE CONDUIT AND MAKE FINAL CONNECTION. PROVIDE NEW NO. 4 AWG CIRCUIT WIRING IN EXISTING CONDUIT BETWEEN PULL BOX AND SWITCH ENCLOSURE AND RECONNECT. SIGNS CONTROLLED WITH A PHOTOCELL SHALL HAVE THE PHOTOCELL BYPASSED. PHOTOCELL AND ASSOCIATED WIRING SHALL BE REMOVED.

THE UNIT PRICE BID FOR ITEM 625 – "REFURBISH SIGN SERVICE "B", AS PER PLAN" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO REFURBISH SIGN SERVICE AS SPECIFIED HEREIN.

REFURBISH SIGN SERVICE "C", AS PER PLAN

THIS ITEM SHALL INCLUDE DISCONNECTING THE LINE SIDE OF THE CIRCUIT WIRING IN THE SIGN SWITCH ENCLOSURE AND REMOVING CIRCUIT WIRING BETWEEN SWITCH ENCLOSURE AND JUNCTION BOX. CONTRACTOR SHALL LOCATE, CUT AND CLEAN THE EXISTING SIGN SERVICE CONDUITS, PREPARE UNUSED CONDUITS FOR ABANDONMENT, EXTEND A 2" CONDUIT FROM THE PROPOSED JUNCTION BOX TO THE EXISTING SIGN SERVICE CONDUIT AND MAKE FINAL CONNECTION. PROVIDE A BUSHED HOLE FOR THE 2" CONDUIT THROUGH A TOTAL OF 7 EXISTING GIRDERS. PROVIDE NEW NO. 4 AWG CIRCUIT WIRING IN CONDUIT BETWEEN JUNCTION BOX AND SWITCH ENCLOSURE AND RECONNECT. SIGNS CONTROLLED WITH A PHOTOCELL SHALL HAVE THE PHOTOCELL BYPASSED. PHOTOCELL AND ASSOCIATED WIRING SHALL BE REMOVED.

THE UNIT PRICE BID FOR ITEM 625 – "REFURBISH SIGN SERVICE "C", AS PER PLAN" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO REFURBISH SIGN SERVICE AS SPECIFIED HEREIN.

ITEM ~~SPECIAL~~ 625 LIGHTING, MISC. – MODIFICATION TO EXISTING CIRCUIT RACEWAY "A"

THIS ITEM SHALL CONSIST OF MODIFYING THE EXISTING CIRCUIT RACEWAY AND PREPARING UNUSED CONDUITS FOR ABANDONMENT. THE WORK REQUIRED SHALL BE AS FOLLOWS:

CUT BOTH EXISTING 3" CONDUITS ON THE SOUTH ABUTMENT WALL OF BRIDGE NO. HAM-71- 0154 L/R AND REAMING ANY BURRS, SEALING UNUSED CONDUITS, DRILLING A 3 1/2" HOLE THROUGH THE EXISTING ROADWAY DECK IN A LOCATION TO AVOID EXISTING RE-BARS FOR 3" FLEXIBLE CONDUIT.

THE UNIT PRICE BID FOR ITEM ~~SPECIAL~~ 625 – "MODIFICATION TO EXISTING CIRCUIT RACEWAY "A" " SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO MODIFY THE EXISTING CIRCUIT RACEWAY AS SPECIFIED HEREIN AND AS DETAILED ON SHEET 220/401.

GENERAL NOTES

ITEM ~~SPECIAL~~ 625 – LIGHTING, MISC. MODIFICATION TO EXISTING CIRCUIT RACEWAY "B"

THIS ITEM SHALL CONSIST OF MODIFYING THE EXISTING CIRCUIT RACEWAY AND PREPARING UNUSED CONDUITS FOR ABANDONMENT. THE WORK REQUIRED SHALL BE AS FOLLOWS; CUT EXISTING CONDUIT AND REAMING ANY BURRS. SEAL ALL UNUSED CONDUITS FOR ABANDONMENT.

THE UNIT PRICE BID FOR EACH ITEM ~~SPECIAL~~ 625 – "MODIFICATION TO EXISTING CIRCUIT RACEWAY "B"" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO MODIFY THE EXISTING CIRCUIT RACAEWAY AS SPECIFIED HEREIN AND AS DETAILED ON SHEET 221/401.

ITEM 625 – CONDUIT, 2", 713.04, AS PER PLAN

THIS ITEM SHALL CONSIST OF 2" CONDUIT IN ACCORDANCE WITH 713.04 ATTACHED TO THE STRUCTURE. THE INSTALLATION WORK SHALL INCLUDE CONDUITS, CONDUIT GROUNDING, MOUNTINGS, FITTINGS AND ALL INCIDENTALS NECESSARY TO PROVIDE 2" CONDUIT AS PER PLAN. THE PRICE BID PER LINEAR FOOT OF ITEM 625 – "CONDUIT, 2", 713.04, AS PER PLAN" SHALL INCLUDE PAYMENT FOR ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

ITEM ~~SPECIAL~~ 625 – LIGHTING, MISC. CONNECTION TO EXISTING CONDUIT

THIS ITEM SHALL CONSIST OF LOCATING AN EXISTING CONDUIT AND EXTENDING THE PROPOSED CONDUIT AS SHOWN ON THESE PLANS FROM THE MEDIAN PULL BOX TO EXISTING CONDUIT LOCATION. MAKE CONNECTIONS TO PROVIDE A CONTINUOUS RACEWAY. THE UNIT PRICE BID FOR EACH ITEM ~~SPECIAL~~ 625 "CONNECTION TO EXISTING CONDUIT" SHALL INCLUDE PAYMENT FOR ALL EQUIPMENT LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE PROVIDED AND CONSIDERED PAID FOR AS PART OF THIS ITEM.

ITEM ~~SPECIAL~~ 625 – ELECTRIC SERVICE CONNECTION TO PEDESTAL LIGHT

THIS ITEM SHALL CONSIST OF CONNECTING THE EXISTING #12 AWG CONDUCTORS IN THE PULL BOX FROM THE 202 WATT INCANDESCENT PEDESTAL LIGHT TO THE PROPOSED LIGHTING CIRCUIT. THE ELECTRICAL CONTRACTOR SHALL MAKE ALL CONNECTIONS NECESSARY TO PROVIDE A COMPLETE 120 VOLT ELECTRIC SERVICE TO THE PEDESTAL LIGHT. CABLE SPLICING KITS SHALL BE PAID FOR SEPARATELY UNDER EACH ITEM 625 "CABLE SPLICING KIT".

THE UNIT PRICE BID FOR EACH ITEM ~~SPECIAL~~ 625 "ELECTRIC SERVICE CONNECTION TO PEDESTAL LIGHT" SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED HEREIN.

BRACKET ARM, 15', AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING A BRACKET ARM, 15 FEET IN LENGTH AS SPECIFIED IN SECTION 713.01 AND A MODIFIED POLE PLATE AS DETAILED ON SHEET 219/401. BRACKET UPSWEEP SHALL MATCH ADJACENT STANDARDS.

THE UNIT PRICE BID FOR EACH "BRACKET ARM, 15', AS PER PLAN" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE THE 15' BRACKET ARM AS SPECIFIED HEREIN.

[redacted]

VOID

ELECTRICAL SERVICE FOR ILLUMINATED SIGNS

THE PAY ITEMS IN THE GENERAL SUMMARY INCLUDE THE PULL BOX OR JUNCTION BOX ADJACENT TO EACH ILLUMINATED SIGN AND THE ELECTRICAL SERVICE CONNECTIONS LEADING INTO THE BOX, INCLUDING SPLICES OR CONNECTOR KITS IN THE PULL BOX OR JUNCTION BOX. QUANTITIES FOR ELECTRICAL SERVICE FROM THE CONNECTION IN THE PULL BOX OR JUNCTION BOX TO THE SIGN ARE INCLUDED IN THE TRAFFIC CONTROL GENERAL SUMMARY.

ITEM ~~SPECIAL~~ 625 – LIGHTING, MISC. JUNCTION BOX EXTENSION "A"

THIS ITEM SHALL CONSIST OF PROVIDING A MODIFIED TYPE II JUNCTION BOX TO EXTEND THE EXISTING JUNCTION BOX FACE SO THAT IT IS FLUSH WITH THE PROPOSED RETROFIT BARRIER. THE MODIFIED TYPE II JUNCTION BOX SHALL HAVE THE FACE OPPOSITE THE OPENING AND PORTIONS OF THE WALL REMOVED AT AN ANGLE AS REQUIRED TO ALLOW THE MODIFIED TYPE II JUNCTION BOX COVER PLATE TO BE FLUSH WITH THE FACE OF THE PROPOSED BARRIER. ATTACH THE MODIFIED TYPE II JUNCTION BOX TO THE FORM WORK FOR PLACEMENT. THE EXISTING JUNCTION BOX COVER SHALL BE TRIMMED AND/OR FORMS USED TO PREVENT PROPOSED RETROFIT BARRIER CONCRETE FROM SEEPING INTO THE EXISTING JUNCTION BOX. SEE DETAIL SHEET 227/401.

THE UNIT PRICE BID FOR EACH ITEM ~~SPECIAL~~ 625 – "JUNCTION BOX EXTENSION "A"" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE THE JUNCTION BOX EXTENSION AS SPECIFIED HEREIN.

ITEM ~~SPECIAL~~ 625 – LIGHTING, MISC. REMOTE PHOTOCELL "A"

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ALL EQUIPMENT NECESSARY TO PROVIDE COMPLETE PHOTOELECTRIC CONTROL OF THE POWER SERVICE.

THE UNIT PRICE BID FOR EACH ITEM ~~SPECIAL~~ 625 "REMOTE PHOTOCELL "A" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE A REMOTE PHOTOCELL AS SPECIFIED HEREIN AND AS DETAILED ON SHEET 220/401.

ITEM ~~SPECIAL~~ 625 – LIGHTING, MISC. REMOTE PHOTOCELL "B"

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ALL EQUIPMENT NECESSARY TO PROVIDE COMPLETE PHOTOELECTRIC CONTROL OF THE POWER SERVICE. THE PHOTOCELL THAT CONTROLS THE STATE POWER SERVICE SHALL BE INTEGRAL WITH THE REFURBISHED LUMINAIRE. THE PHOTOCELL THAT CONTROLS THE CITY POWER SERVICE SHALL BE PROVIDED BY; DRILLING AND TAPPING A HOLE IN THE LIGHT POLE END CAP AND INSTALLING A PHOTOCELL MEETING THE REQUIREMENTS OF SPECIFICATION SECTION 713.19–14, EXTENDING #12 AWG CONTROL CABLE FOR CITY PHOTOCELL IN EXISTING CONDUIT FOR STATE LIGHTING CIRCUIT TO WITHIN 5 FEET OF THE STATE CONTROL CENTER, CUTTING EXISTING CONDUIT AND PROVIDING JUNCTION BOX AND CONDUIT TO PROVIDE A RACEWAY TO THE CITY CONTROL CENTER, EXTEND #12 AWG CONTROL CABLES FROM THE STATE PHOTOCELL TO THE STATE CONTROL CENTER IN EXISTING CONDUIT FOR STATE LIGHTING CIRCUITS.

THE UNIT PRICE BID FOR EACH ITEM ~~SPECIAL~~ 625 "REMOTE PHOTOCELL "B" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE A REMOTE PHOTOCELL AS SPECIFIED HEREIN.

ITEM ~~SPECIAL~~ 625 – LIGHTING, MISC. REMOTE PHOTOCELL "C"

THIS ITEM SHALL CONSIST OF FURNISHING AND INSTALLING ALL EQUIPMENT NECESSARY TO PROVIDE COMPLETE PHOTOELECTRIC CONTROL OF THE ELECTRIC SIGN. THE PHOTOCELL THAT CONTROLS THE ELECTRIC SIGN SHALL BE PROVIDED BY; DRILLING AND TAPPING A HOLE IN THE SIGN SUPPORT END CAP AND INSTALLING A PHOTOCELL MEETING THE REQUIREMENTS OF SPECIFICATION SECTION 713.19–14, EXTENDING #12 AWG CONTROL CABLE FROM THE PHOTOCELL TO THE SIGN DISCONNECT ENCLOSURE AND INSTALLING A HAND–OFF–AUTO SWITCH MEETING THE REQUIREMENTS OF SPECIFICATION SECTION 713.19–13 IN THE SIGN DISCONNECT ENCLOSURE.

THE UNIT PRICE BID FOR EACH ITEM ~~SPECIAL~~ 625 "REMOTE PHOTOCELL "C" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE A REMOTE PHOTOCELL AS SPECIFIED HEREIN.

ITEM SPECIAL – MAINTAIN EXISTING LIGHTING

EXISTING ROADWAYS WHICH ARE TO REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION OF THIS PROJECT AND WHICH ARE LIGHTED SHALL HAVE THE LIGHTING MAINTAINED AS DESCRIBED HEREIN.

BEFORE ANY WORK IS STARTED IN THE IMMEDIATE VICINITY OF ANY EXISTING LIGHTING CIRCUITS, REPRESENTATIVES OF THE STATE, THE MAINTAINING AGENCY, AND THE CONTRACTOR SHALL MAKE A VISUAL INSPECTION OF THE EXISTING ROADWAY LIGHTING CIRCUITS TO BE MAINTAINED. DURING THIS INSPECTION, A WRITTEN RECORD OF THE CONDITION OF THE EXISTING LIGHTING SHALL BE MADE BY THE STATE'S REPRESENTATIVE. THIS WRITTEN REPORT SHALL NOTE INDIVIDUAL LUMINAIRES WHICH ARE NOT IN WORKING ORDER, INDIVIDUAL POLES WHICH ARE NOT STANDING, AND INDIVIDUAL CIRCUITS WHICH ARE NOT IN WORKING ORDER. THE COMPLETED REPORT SHALL BE SIGNED BY THE REPRESENTATIVES OF THE STATE, THE MAINTAINING AGENCY, AND THE CONTRACTOR.

IF, AS A RESULT OF THIS INSPECTION, IT IS DETERMINED THAT THE CONDITION OF THE EXISTING SYSTEM IS BELOW THAT REQUIRED FOR THE SAFETY OF THE TRAVELING PUBLIC, THEN THE MAINTAINING AGENCY SHALL MAKE REPAIRS NECESSARY TO RETURN THE SYSTEM TO AN ACCEPTABLE CONDITION. FOLLOWING THESE REPAIRS, THE SYSTEM SHALL AGAIN BE INSPECTED AND A REPORT MADE AND SIGNED AS OUTLINED HEREIN.

WHEN THE EXISTING SYSTEM IS IN AN ACCEPTABLE CONDITION, IT SHALL BE TURNED OVER TO THE CONTRACTOR WHO SHALL THEN BE REQUIRED TO MAINTAIN THE EXISTING LIGHTING TO THE CONDITION OUTLINED IN THIS REPORT WITH THE EXCEPTION OF KNOCKDOWNS DUE TO TRAFFIC ACCIDENTS.

REPLACEMENT OF KNOCKED DOWN UNITS SHALL BE DONE ONLY WHEN THE ENGINEER HAS DETERMINED THAT THE REPLACEMENT OF THE KNOCKED DOWN UNIT IS NECESSARY AND SHALL BE PAID SEPARATELY ON A UNIT BASIS.

BETTERMENTS SHALL BE COVERED IN ITEMS OF WORK PERTAINING TO THE CONSTRUCTION OF PERMANENT IMPROVEMENTS.

SHOULD THE CONTRACTOR DESIRE THE REMOVAL OF THE EXISTING LIGHTING BEFORE THE NEW LIGHTING IS OPERATIONAL, THE CONTRACTOR SHALL THEN BE RESPONSIBLE FOR ADEQUATE TEMPORARY LIGHTING OF THAT PORTION OF THE EXISTING ROADWAY AFFECTED BY THE REMOVAL OF THE EXISTING LIGHTING.

PRIOR TO INSTALLING SUCH LIGHTING, THE CONTRACTOR SHALL PREPARE AND SUBMIT FOUR (4) SETS OF THE TEMPORARY LIGHTING PLAN TO THE DIRECTOR FOR REVIEW AND APPROVAL.

THIS PLAN SHALL SHOW LOCATION OF POLES, LENGTH OF BRACKET ARMS, STYLE OF LUMINAIRES, MOUNTING HEIGHT, WIRING METHODS, AND OTHER PERTINENT INFORMATION. THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOTCANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY NOT TO EXCEED 4:1. MOUNTING HEIGHT FOR TEMPORARY LUMINAIRES SHALL NOT BE LESS THAN 27 FEET AND MINIMUM OVERHEAD CONDUCTOR CLEARANCE SHALL BE 20 FEET. TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE "A" FOR STRENGTH REQUIREMENT AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE. WOOD POLES WITH OVERHEAD WIRING MAY BE USED. HOWEVER, TEMPORARY LIGHTING SHALL MEET FEDERAL AND STATE SAFETY CRITERIA. IF BREAKAWAY POLES ARE USED TO MEET THESE CRITERIA, THEN UNDERGROUND WIRING SHALL BE USED. RECONDITIONED OR USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING.

ALL MATERIALS NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. WHEN NO LONGER NEEDED, THE TEMPORARY LIGHTING INSTALLATION SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

THE MAINTAINING AGENCY WILL PAY FOR ELECTRICAL ENERGY CONSUMED BY EXISTING POWER SERVICES AND BY PROPOSED PERMANENT POWER SERVICES AFTER ACCEPTANCE. THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL, AND MAINTENANCE OF ANY TEMPORARY POWER SERVICES.

THE LUMP SUM PRICE BID FOR ITEM SPECIAL "MAINTAIN EXISTING LIGHTING" SHALL INCLUDE PAYMENT FOR ALL LABOR, EQUIPMENT, AND MATERIALS, AND INCIDENTALS NECESSARY TO MAINTAIN THE EXISTING LIGHTING AS SPECIFIED HEREIN, *

THE UNIT PRICE BID FOR ITEM SPECIAL "REPLACEMENT OF EXISTING LIGHTING UNIT" SHALL BE FULL PAYMENT FOR THE REPLACEMENT OF AN EXISTING LIGHTING UNIT WHICH HAS BEEN KNOCKED DOWN AFTER THE AFORMENTIONED INSPECTION AND SHALL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE A REPLACEMENT FOR SUCH UNIT. AN ESTIMATED QUANTITY OF ONE IS INCLUDED IN THE LIGHTING GENERAL SUMMARY FOR THIS PURPOSE.

* AND SHALL ALSO INCLUDE PAYMENT FOR ANY REARRANGEMENT OF THE EXISTING LIGHTING, AND/OR TEMPORARY LIGHTING PROVIDED AS NOTED ABOVE TO ACCOMMODATE ROADWAY CONSTRUCTION.

GENERAL NOTES

LIGHT TOWER LUMINAIRE MOUNTING ARRANGEMENT

UNLESS OTHERWISE SPECIFIED IN THE PLANS, ALL LUMINAIRES WITH ASYMMETRIC DISTRIBUTIONS SHALL BE INSTALLED SO THE "ARROW" OR "STREET SIDE" DESIGNATION ON THE OPTICAL ASSEMBLY IS POSITIONED PERPENDICULAR TO THE CENTERLINE OR BASELINE OF THE PAVEMENT FROM WHICH THE TOWER IS STATIONED. ANY OPTICAL ROTATION CALLED FOR WILL BE EXPRESSED AS A CLOCKWISE (CW) OR COUNTERCLOCKWISE (CCW) ANGULAR MEASUREMENT FROM THE NORMAL "ARROW" ORIENTATION.

ITEM SPECIAL – TOWER FOUNDATION GRADING

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO GRADE THE GROUND AROUND A LIGHT TOWER FOUNDATION WHERE SHOWN ON THE PLANS AND AS DETAILED ON STANDARD DRAWING HL-20.21.

PAYMENT WILL BE MADE FOR EACH "ITEM SPECIAL – TOWER FOUNDATION GRADING" AND SHALL BE FULL COMPENSATION TO COMPLETE THE WORK IN A SATISFACTORY MANNER.

ITEM 625 – PORTABLE POWER UNIT

THIS ITEM SHALL CONSIST OF FURNISHING A PORTABLE POWER UNIT FOR OPERATION OF LIGHT TOWER WINCH ASSEMBLIES. THE PORTABLE POWER UNIT SHALL CONFORM TO THE REQUIREMENTS OF 713.21 AND DETAILS SHOWN ON THE STANDARD DRAWINGS. PAYMENT SHALL BE PER EACH ITEM 625 – "PORTABLE POWER UNIT".

HIGH MAST LIGHT TOWERS

THE MANUFACTURER SHALL SUBMIT A REPORT FROM AN INDEPENDENT TESTING LABORATORY TO SHOW THAT THE LUMINAIRES DO NOT RECEIVE MORE THAN THE SPECIFIED ACCELERATION LOAD. THE TESTING LABORATORY'S REPORT SHALL SPECIFY IN DETAIL THE MOUNTING LOCATIONS OF THE ACCELEROMETERS AND THE TEST PROCEDURES USED. IN ADDITION TO THIS REPORT, OHIO DEPARTMENT OF TRANSPORTATION RESERVES THE RIGHT TO CONDUCT FIELD MEASUREMENTS OF THOSE ACCELERATION LOADS AND TO ACCEPT ONLY THOSE DESIGNS IN WHICH THE TESTED INSTALLATIONS MEET SPECIFICATIONS.

THE TERMINAL BLOCK SHOWN ON STANDARD CONSTRUCTION DRAWINGS SHALL BE INCLUDED IN THE PRICE OF THE TOWER.

TOWER LIGHTNING PROTECTION SYSTEM

THIS ITEM CONSISTS OF PROVIDING AND INSTALLING AN APPROVED TOWER LIGHTNING PROTECTION SYSTEM AS DETAILED IN THE STANDARD CONSTRUCTION DRAWINGS FOR EACH TOWER ERECTED. THE COST OF LABOR, MATERIALS AND EQUIPMENT REQUIRED TO INSTALL THIS PROTECTION SHALL BE INCLUDED IN THE PRICE OF THE TOWER.

LIGHT TOWER DETAILS

STANDARD DRAWING HL-10.31 (DATED 5-1-87) HAS BEEN REVISED AS FOLLOWS: THE TWO DIMENSIONS SHOWN AS 4 3/4 INCHES BETWEEN THE CENTER LINES OF THE DRIVE SUPPORT TUBE AND THE WINCH INPUT SHAFT SHOULD READ 3 3/4 INCHES.

ITEM 625 – LIGHT POLE DESIGN A10BB40, AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING A LIGHT POLE DESIGN A10BB40. REFER TO DETAIL SHEET 227/401 FOR BRACKET ARM AND HAND HOLE LOCATIONS.

PAYMENT FOR THIS ITEM SHALL BE PER EACH "ITEM 625 – LIGHT POLE DESIGN A10BB40, AS PER PLAN" AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED. COMPONENT PARTS NOT SPECIFICALLY MENTIONED BUT REQUIRED FOR SATISFACTORY OPERATION OF THIS ITEM SHALL BE PROVIDED AND CONSIDERED PAID FOR AS PART OF THIS ITEM.

ITEM 625 – LIGHT POLE DESIGN A18BB71.7, AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING A LIGHT POLE DESIGN A18BB71.7. LIGHT POLE SHALL BE LOCATED AS STATIONED IN THESE PLANS. SLIGHT ADJUSTMENTS SHALL BE MADE AS REQUIRED TO CENTER THE LIGHT POLE BETWEEN BRIDGE STRUCTURES.

PAYMENT FOR THIS ITEM SHALL BE PER EACH "ITEM 625 – LIGHT POLE DESIGN A18BB71.7, AS PER PLAN" AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

ITEM 625 – LIGHT TOWER FOUNDATION "A", 36" X 25' DEEP, AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING A LIGHT TOWER FOUNDATION AS PER STANDARD DRAWING HL-20.21 EXCEPT THAT THE TOP OF THE FOUNDATION SHALL BE AS DETAILED ON SHEET 228/401.

PAYMENT FOR THIS ITEM SHALL BE PER EACH "ITEM 625 – LIGHT TOWER FOUNDATION "A", 36" X 25' DEEP, AS PER PLAN" AND SHALL INCLUDE ALL EQUIPMENT, LABOR, FORMING, CLASS C CONCRETE AND OTHER MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

ITEM 625 – LIGHT TOWER FOUNDATION "B", 36" X 25' DEEP, AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING A LIGHT TOWER FOUNDATION AS PER STANDARD DRAWING HL-20.21 EXCEPT THAT THE TOP OF THE FOUNDATION SHALL BE FLUSH WITH THE TOP OF THE NEW CONCRETE MEDIAN BARRIER. CONCRETE MEDIAN BARRIER SHALL BE FORMED AROUND LIGHT TOWER FOUNDATION AS PER STANDARD DRAWING MC-9. CONCRETE MEDIAN BARRIER SHALL BE PAID FOR SEPARATELY UNDER ITEM 622.

PAYMENT FOR THIS ITEM SHALL BE PER EACH "ITEM 625 – LIGHT TOWER FOUNDATION "B", 36" X 25' DEEP, AS PER PLAN" AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

ITEM 625 – LIGHT POLE FOUNDATION "A", 24" X 10' DEEP, AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING A LIGHT POLE FOUNDATION AS PER STANDARD DRAWING HL-20.11 EXCEPT THAT THE TOP OF THE FOUNDATION SHALL BE AS DETAILED AND DIMENSIONED ON SHEET 228/401.

PAYMENT FOR THIS ITEM SHALL BE PER EACH "ITEM 625 – LIGHT POLE FOUNDATION "A", 24" X 10' DEEP, AS PER PLAN" AND SHALL INCLUDE ALL EQUIPMENT, LABOR, FORMING, CLASS C CONCRETE AND OTHER MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

ITEM 625 – LIGHT POLE FOUNDATION "B", 24" X 10' DEEP, AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING A LIGHT POLE FOUNDATION AS PER STANDARD DRAWING HL-20.11 EXCEPT THAT THE TOP OF THE FOUNDATION SHALL BE AS DETAILED AND DIMENSIONED ON SHEET 228/401.

PAYMENT FOR THIS ITEM SHALL BE PER EACH "ITEM 625 – LIGHT POLE FOUNDATION "B", 24" X 10' DEEP, AS PER PLAN" AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

ITEM 625 – PULL BOX, CONCRETE, 18", AS PER PLAN

THIS ITEM SHALL CONSIST OF PROVIDING A PULL BOX AS PER STANDARD DRAWING HL-30.11 EXCEPT THAT THE PULL BOX SHALL BE LOCATED AS DETAILED ON SHEET 228/401.

PAYMENT FOR THIS ITEM SHALL BE PER EACH "ITEM 625 – PULL BOX, CONCRETE, 18", AS PER PLAN" AND SHALL INCLUDE ALL EQUIPMENT, LABOR, FORMING, CLASS C CONCRETE AND OTHER MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

202 REMOVAL MISC.

ITEM ~~SPECIAL~~ – REMOVAL AND REPLACEMENT OF MEDIAN CONCRETE BARRIER CAP

THIS ITEM SHALL CONSIST OF REMOVAL OF THE EXISTING CONCRETE BARRIER CAP AND A PORTION OF THE LOOSE AGGREGATE FILL FOR PLACEMENT OF LIGHTING CONDUIT. AFTER PLACEMENT OF LIGHTING CONDUIT, LOOSE AGGREGATE FILL SHALL BE REPLACED WITH LIKE MATERIAL TO ORIGINAL DEPTH FOR PLACEMENT OF A NEW MEDIAN CONCRETE BARRIER CAP. NEW BARRIER CAP SHALL BE CLASS C CONCRETE AND SHALL BE EQUAL TO THE EXISTING BARRIER CAP IN CONSTRUCTION. ALL MATERIALS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF THE PROJECT SITE.

202 REMOVAL MISC.

PAYMENT FOR THIS ITEM SHALL BE PER LINEAR FOOT OF "ITEM ~~SPECIAL~~ – REMOVAL AND REPLACEMENT OF MEDIAN CONCRETE BARRIER CAP" AND SHALL INCLUDE ALL EQUIPMENT, LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS SPECIFIED.

ITEM 625 – 713.13 UNDERPASS LUMINAIRES

UNDERPASS LUMINAIRES SHALL BE HOLOPHANE "UNDERPASS WALLPACK", CROUSE-HINDS "WA" OR GENERAL ELECTRIC "W40L" UNDERPASS UNIT OR EQUAL APPROVED BY THE ENGINEER.

ALL UNDERPASS LUMINAIRES SHALL BE FURNISHED WITH AN INTEGRAL FUSE HOLDER AND 10 AMPERE FUSE. THE INTEGRAL HIGH PRESSURE SODIUM BALLAST SHALL BE OF A REGULATOR TYPE RATED FOR THE VOLTAGE SPECIFIED, 100 WATTS

ITEM SPECIAL - UNDERGROUND UTILITIES, ODOT/GOVERNMENT OWNED & MAINTAINED

THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOW ON THE PLANS HAVE BEEN OBTAINED BY EXTENSIVE FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE STATE OF OHIO, SPECIFICALLY THE OHIO DEPARTMENT OF TRANSPORTATION, DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS. EXTREME CAUTION SHALL BE EXERCISED IN AREAS WITH UNDERGROUD ELECTRICAL CONDUIT OR CABLE, SEWERS, WATERLINES, OR ANY OTHER UNDERGROUND UTILITY.

THE CONTRACTOR, ACTING AS AN AGENT FOR ODOT AND COMPLYING WITH H.B.538, SHALL BE RESPONSIBLE FOR LOCATING AND MARKING ALL ODOT OWNED UNDERGROUND UTILITIES, INCLUDING BUT NOT LIMITED TO THE FOLLOWING: ELECTRICAL CONDUIT, DUCT AND/OR CABLE, SEWERS, AND DRAINS TO PREVENT DAMAGE DURING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE UTILITIES, OTHER THAN ODOT, BY OUPS, OR DIRECTLY BY TELEPHONE, FORTY-EIGHT (48) HOURS IN ADVANCE OF WORK. UTILITIES OWNED AND MAINTAINED BY ODOT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE CAUSED TO ANY AND ALL UNDERGROUND UTILITY BY THE EXCAVATION OR PLACEMENT OF SIGN SUPPORTS, LIGHT FOUNDATIONS, DRAINAGE, PROTECTIVE GUARDRAIL, DELINEATION, INCLUDING ANY AND ALL ROADWAY EXCAVATION ETC., AND WILL BE REQUIRED AT THE CONTRACTOR'S EXPENSE TO REPAIR THE DAMAGE TO AN "AS WAS" CONDITION AND BE IN COMPLIANCE AND IN ACCORDANCE WITH ALL SPECIFICATIONS INCLUDING 107.7, 625, 631, AND 632 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS.

PAYMENT FOR THE ABOVE, INCLUDING LOCATING AND MARKING OF ODOT UNERGROUND UTILITIES, SHALL BE MADE IN THE LUMP SUM BID ITEM SPECIAL - UNDERGROUND UTILITIES, ODOT/GOVERNMENT OWNED & MAINTAINED. THE LUMP SUM QUANTITY HAS BEEN CARRIED TO THE LIGHTING GENERAL SUMMARY PAGE 147 FOR ITEM SPECIAL - UNDERGROUND UTILITIES, ODOT/GOVERNMENT OWNED & MAINTAINED.

LIGHTING GENERAL NOTES

ITEM 625 - CONDUIT, MISC.: CONDUIT, 2", 713.04 IN STRUCTURE

PRIOR TO STARTING WORK ON PARAPET RETROFIT, THE CONTRACTOR IS TO ESTABLISH LOCATION OF EXISTING CONDUIT, SO AS NOT TO DAMAGE SAME DURING HIS OPERATIONS. ANY DAMAGE TO EXISTING CONDUIT SHALL BE REPAIRED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE PROJECT.

AN ESTIMATED QUANTITY OF 500 L.F. - 2" RIGID CONDUIT 713.04 IN STRUCTURE IS CARRIED TO THE GENERAL SUMMARY TO BE USED, AS DIRECTED BY THE ENGINEER, TO REPLACE EXISTING CONDUIT WHERE CONDUIT INTERFERES WITH PROPOSED CONSTRUCTION.

ITEM 625 - LIGHTING, MISC.: 2" RIGID CONDUIT EXPANSION FITTING

AN ESTIMATED QUANTITY OF 25 EACH 2" RIGID CONDUIT EXPANSION FITTINGS HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED, AS DIRECTED BY THE ENGINEER, TO REPLACE DETERIORATED EXISTING EXPANSION FITTINGS.

LIGHT POLES TO BE REPLACED ON EXISTING FOUNDATIONS AND/OR WELLS AND STRUCTURES

THE CONTRACTOR IS TO FIELD VERIFY EXISTING BOLT CIRCLES (TYPICAL). IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO INSURE PROPER FIT OF POLE BASES. ANY ERRORS IN FABRICATION SHALL BE CORRECTED AT THE CONTRACTORS EXPENSE.

TWIN DAVIT ARM LIGHT POLES, AS PER PLAN

FINISH ON POLES SHALL BE POWDER COAT OVER GALVANIZED FINISH IN COLOR, BENJAMIN MOORE NO.624, WITH LUMINAIRES IN MATCHING COLOR.

ITEM SPECIAL - TEMPORARY LIGHTING, AS PER PLAN (SECTION 2)

THE CONTRACTOR SHALL DESIGN, INSTALL, MAINTAIN AND REMOVE TEMPORARY LIGHTING.

THE CONTRACTOR SHALL PREPARE AND SUBMITT (4) FOUR SETS OF THE TEMPORARY LIGHTING PLAN AT THE PRE-CONSTRUCTION MEETING. NO WORK ON ELECTRICAL ITEMS WILL BE PERMITTED UNTIL THIS PLAN IS APPROVED BY THE DIRECTOR.

THE PLAN SHALL SHOW LOCATIONS OF POLES, LENGTH OF BRACKET ARMS, STYLE OF LUMINAIRES, MOUNTING HEIGHT, WIRING METHODS AND OTHER PERTINENT INFORMATION. THE TEMPORARY LIGHTING SHALL PROVIDE AN AVERAGE INITIAL INTENSITY OF 1.2 FOOT-CANDLES WITH AN AVERAGE TO MINIMUM UNIFORMITY NOT TO EXCEED 4:1. MOUNTING HEIGHT SHALL NOT BE LESS THEN 27 FEET AND MINIMUM OVERHEAD CONDUCTOR CLEARANCE OF 20 FT. TEMPORARY OVERHEAD CONSTRUCTION SHALL NOT BE LESS THAN GRADE "A" FOR STRENGTH REQUIREMENTS AS DEFINED BY THE NATIONAL ELECTRIC SAFETY CODE. WOOD POLES FOR OVERHEAD WIRING MAY BE USED. HOWEVER, TEMPORARY LIGHTING SHALL MEET FEDERAL AND STATE SAFETY CRITERIA. IF BREAKAWAY POLES ARE USED TO MEET THESE CRITERIA, THEN UNDERGROUND WIRING SHALL BE USED. RECONDITIONED OR USED MATERIALS MAY BE FURNISHED FOR TEMPORARY LIGHTING.

ALL MATERIAL NECESSARY TO COMPLETE THE TEMPORARY LIGHTING SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR, WHEN NO LONGER NEEDED, THE TEMPORARY LIGHTING INSTALLATION SHALL BE REMOVED AND PROPERLY DISPOSED OF BY THE CONTRACTOR.

THE MAINTAINING AGENCY WILL PAY FOR ELECTRICAL ENERGY CONSUMED BY EXISTING POWER SERVICES AND BY PROPOSED PERMANENT POWER SERVICES AFTER ACCEPTANCE. THE CONTRACTOR WILL PAY FOR ELECTRICAL ENERGY, INSTALLATION, REMOVAL AND MAINTENANCE OF ANY TEMPORARY POWER SERVICES.

THE LUMP SUM PRICE BID FOR ITEM SPECIAL "TEMPORARY LIGHTING" SHALL INCLUDE PAYMENT FOR DESIGN, LABOR, EQUIPMENT AND MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE TEMPORARY LIGHTING AND SUBSEQUENT REMOVAL.

ITEM 625 - UNDERPASS LUMINAIRE, 150 WATT HPS, 240 VOLT, AS PER PLAN (PENDANT TYPE)

THE LUMINAIRE SHALL BE HOLOPHANE "BANTAM PRISUATITE", OR CREATIVE SOLUTIONS OR EQUAL AND AS SPECIFIED BELOW, OR HOLOPHANE "PETL", CROOSE HINDS "VLW".

THE LUMINAIRE SHALL CONSIST OF TWO SUB-ASSEMBLIES, THE OPTICAL ASSEMBLY AND THE BALLAST HOUSING CONTAINING THE ELECTRICAL COMPONENTS.

THE BALLAST ASSEMBLY SHALL BE COMPLETE WITH DIE CAST ALUMINUM HOUSING AND INTEGRAL SPLICE CHAMBER WITH DETACHABLE ACCESS COVER AND AN ADJUSTABLE HUB ENTRY ADAPTER ASSURING PLUMB ALIGNMENT. THE HOUSING SHALL HAVE AN INTEGRAL MOUNTING PLATE FOR ATTACHING THE OPTICAL ASSEMBLY. THE SOCKET SHALL BE AN INTEGRAL PART OF THE BALLAST ASSEMBLY. THE BALLAST SHALL BE A COPPER WOUND HIGH POWER FACTOR MULTI-TAP AUTOTRANSFORMER FOR 150 WATT 100 VOLT HPS LAMP WITH TOTAL INPUT WATTS NOT TO EXCEED 180.

THE PRISMATIC REFRACTOR SHALL BE OF A BOROSILICATE GLASS 8 INCHES IN DIAMETER AND 6 INCHES DEEP, WITH A PRISMATIC STRUCTURE PRODUCING AN IES TYPE G, MEDIUM, NON-CUT OFF LIGHT DISTRIBUTION.

THE ASSEMBLED LUMINAIRE SHALL NOT EXCEED 12.75 INCHES IN HEIGHT OR 24 POUNDS IN WEIGHT. THE COMPLETE LUMINAIRE SHALL BE UL LISTED "SUITABLE FOR WET LOCATIONS" AND UL APPROVED FOR CONTINUOUS DUTY IN AMBIENT TEMPERATURES BETWEEN 20 DEG.F. AND 131 DEG.F. IT SHALL ALSO CARRY THE MANUFACTURERS 2-YEAR WARRANTY ON THE COMPLETE ASSEMBLY PLUS A 5-YEAR WARRANTY ON THE ELECTRICAL COMPONENTS.

PAYMENT FOR THE LUMINAIRE SHALL INCLUDE THE SUPPORT BETWEEN THE BEAMS AS DETAILED IN THE PLAN AND REPLACEMENT OF FLEXIBLE CONDUIT FROM LUMINAIRE TO EXISTING CONDUIT OR JUNCTION BOX AND ALL INCIDENTALS NECESSARY TO COMPLETE THE INSTALLATION INCLUDING ALL EQUIPMENT, LABOR AND MATERIALS.

ALL OF THE ABOVE SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 625 - UNDERPASS LUMINAIRE, 150 WATT HPS, 240 VOLT, AS PER PLAN.

GENERAL SUMMARY

LIGHTING QUANTITIES

SHEET NUMBER																						SUBTOTALS			ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
SECTION 1																	SECTION 2												
141/401	153/401	154/401	155/401	156/401	157/401	158/401	159/401	160/401	161/401	162/401	163/401	164/401	165/401	166/401	167/401	168/401	191/401	192/401	193/401	194/401	195/401	GEN. NOTES	SECTION 1	SECTION 2					
	86	64															22						150	22	202	75300	172	EACH	PULL BOX REMOVED
	101	91															58						192	58	202	75400	250	EACH	LIGHT POLE REMOVED
	62	54															52						116	52	202	75500	168	EACH	LIGHT POLE FOUNDATION REMOVED
	110	97															58						207	58	202	75506	265	EACH	LUMINAIRE REMOVED
	3	4															2						7	2	202	75510	9	EACH	POWER SERVICE REMOVED
	3																						3		202	75511	3	EACH	REMOVE POWER SERVICE "A", AS PER PLAN
		2																					2		202	75511	2	EACH	REMOVE POWER SERVICE "B", AS PER PLAN
	20																						20		202	98200	20	LIN. FT.	EXISTING CONDUIT REMOVED
																				1160				1160	202	98200	1160	LIN. FT.	REMOVAL AND REPLACEMENT OF MEDIAN BARRIER CAP; REMOVAL MISC.
				23			18	14		4				13	9								81		202	98100	81	EACH	REMOVAL, MISC.: REMOVE UNDERPASS LUMINAIRE AND SUPPORTS
2420																						2420			603	00400	2420	LIN. FT.	4 INCH CONDUIT, TYPE E
			34		42	26	20	20	28	26	28	40	34	16	16	28		8	15	21	7		358	51	625	00500	409	EACH	CONNECTOR KIT, TYPE II
														1				8	15	21	7		1	51	625	00600	52	EACH	CONNECTOR KIT, TYPE III
			3	12	3	3			3			3	3						6				30	6	625	01000	36	EACH	CONNECTOR KIT, TYPE VII A
			12	30	18		9	12		12	3	3	6	30		3		2	2				138	4	625	01004	142	EACH	CONNECTOR KIT, TYPE VII B
				6	6		3			3					15								33		625	01100	33	EACH	CONNECTOR KIT, TYPE VII C
			9	21	12	22	21	27	15	12	40	12	6	36	30	21		18	18	14	8		284	58	625	01500	342	EACH	CABLE SPLICING KIT
							2				3			5									10		625	10500	10	EACH	LIGHT POLE, DESIGN AT10B36.7
														1									1		625	10500	1	EACH	LIGHT POLE, DESIGN AT15B36.7
															2								2		625	04900	2	EACH	LIGHT POLE, DESIGN A4B40
									3				2										5		625	05006	5	EACH	LIGHT POLE, DESIGN A8B40
											3	9	11										23		625	05200	23	EACH	LIGHT POLE, DESIGN A10B40
											1												1		625	05715	1	EACH	LIGHT POLE, DESIGN A10BB40, AS PER PLAN
																				7				7	625	06000	7	EACH	LIGHT POLE, DESIGN AT6B41.7
							1								2								3		625	06100	3	EACH	LIGHT POLE, DESIGN AT8B41.7
									2	3	3				4					1	7		12	8	625	06200	20	EACH	LIGHT POLE, DESIGN AT10B41.7
							1												5				1	5	625	06300	6	EACH	LIGHT POLE, DESIGN AT12B41.7
							2		5	5		5	1			5							23		625	06400	23	EACH	LIGHT POLE, DESIGN AT15B41.7
							1					1											2		625	05000	2	EACH	LIGHT POLE, DESIGN A6B40D
											1												1		625	05006	1	EACH	LIGHT POLE, DESIGN A8B40D
										5		3	2			3							13		625	05200	13	EACH	LIGHT POLE, DESIGN A10B40D
									2														2		625	05300	2	EACH	LIGHT POLE, DESIGN A12B40D
							1																1		625	05400	1	EACH	LIGHT POLE, DESIGN A15B40D
																			3					3	625	05710	3	EACH	LIGHT POLE, DESIGN A8BB40D
												1											1		625	10500	1	EACH	LIGHT POLE, DESIGN A10B12B40D; MISC.
																3							3		625	10500	3	EACH	LIGHT POLE, DESIGN A12B15B40D; MISC.
																		8	7	7				22	625	10500	22	EACH	LIGHT POLE, DESIGN ST15B20B51.7; MISC.
																				2				2	625	10500	2	EACH	LIGHT POLE, DESIGN ST18BB51.7; MISC.
																				3				3	625	10500	3	EACH	LIGHT POLE, DESIGN ST15BB51.7; MISC.
							1	3	2		2	1	1			3							13		625	10500	13	EACH	VARIABLE HEIGHT STANDARD; LIGHT POLE, MISC.
																				1				1	625	10500	1	EACH	LIGHT POLE DESIGN A18BB71.7, AS PER PLAN, MISC.
			8		4																		12		625	10611	12	EACH	LIGHT POLE ANCHOR U-BOLTS, AS PER PLAN
																		3						3	625	13200	3	EACH	LIGHT TOWER BBBB 100'
																		4	2					6	625	13400	6	EACH	LIGHT TOWER BBBBBB 100'
			4		3	4	6		4	7	6	5	1	6	2	5			5	8	7		53	20	625	14100	73	EACH	LIGHT POLE FOUNDATION, 24" X 8' DEEP
									3	1	1			2	4								11		625	14200	11	EACH	LIGHT POLE FOUNDATION, 24" X 10' DEEP
																			3					3	625	14300	3	EACH	MEDIAN LIGHT POLE FOUNDATION, 8' DEEP
			3		10		3	3		2		5	2			5							33		625	14301	33	EACH	MEDIAN LIGHT POLE FOUNDATION, 8' DEEP, AS PER PLAN
									2	3													5		625	14307	5	EACH	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN
																		8	7	8				23	625	14201	23	EACH	LIGHT POLE FOUNDATION "A", 24" X 10' DEEP, AS PER PLAN
																				4				4	625	14201	4	EACH	LIGHT POLE FOUNDATION "B", 24" X 10' DEEP, AS PER PLAN
																			1					1	625	15200	1	EACH	LIGHT TOWER FOUNDATION, 36" X 25' DEEP

"D" DENOTES MEDIAN POLE BASE

GENERAL SUMMARY

LIGHTING QUANTITIES

SHEET NUMBER SECTION 1 141/401	153/401	154/401	155/401	156/401	157/401	158/401	159/401	160/401	161/401	162/401	163/401	164/401	165/401	166/401	167/401	168/401	SECTION 2 191/401	192/401	193/401	194/401	195/401	SUBTOTALS GEN. NOTES	SECTION 1	SECTION 2	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
					3	4																	7		625	10500	7	EACH	LIGHT POLE, MISC.: DESIGN A8840 DAVIT ARM VALMONT DS90 *
			4		2																		6		625	10500	6	EACH	LIGHT POLE, MISC.: TWIN DAVIT ARM VALMONT 7A12DD40, AS PER PLAN (SEE SHEET 144A) *
			6		1																		7		625	10500	7	EACH	LIGHT POLE, MISC.: DESIGN A10B40 DAVIT ARM VALMONT DS90 *
			1																				1		625	10500	1	EACH	LIGHT POLE, MISC.: DESIGN AT10B841.7 TWIN DAVIT ARM VALMONT DS90 *
			2		1																		3		625	10500	3	EACH	LIGHT POLE, MISC.: DESIGN AT12B41.7 DAVIT ARM VALMONT DS90 *
			3		8																		11		625	10500	11	EACH	LIGHT POLE, MISC.: TWIN DAVIT ARM VALMONT 7A12DD40 D, AS PER PLAN (SEE SHEET 144A) *
					1																		1		625	10500	1	EACH	LIGHT POLE, MISC.: DESIGN A8B40D DAVIT ARM VALMONT DS90 *
			1																				1		625	10500	1	EACH	LIGHT POLE, MISC.: DESIGN AT10B41.7 DAVIT ARM VALMONT DS90 *
					3	4																	7		625	10500	7	EACH	LIGHT POLE, MISC.: DESIGN AT15B41.7 DAVIT ARM VALMONT DS90 *
					3	3		3															9		625	10500	9	EACH	LIGHT POLE, MISC.: VARIABLE HEIGHT STANDARD, DAVIT ARM VALMONT DS90 *
							1																1		625	10500	1	EACH	LIGHT POLE, MISC.: DESIGN A15B40D DAVIT ARM VALMONT DS90 *
								3															3		625	10500	3	EACH	LIGHT POLE, MISC.: DESIGN A12B40D DAVIT ARM VALMONT DS90 *

* OR APPROVED EQUAL

GENERAL SUMMARY

LIGHTING QUANTITIES

3 of 4

SHEET NUMBER SECTION 1 142/401	153/401	154/401	155/401	156/401	157/401	158/401	159/401	160/401	161/401	162/401	163/401	164/401	165/401	166/401	167/401	168/401	SECTION 2 191/401	192/401	193/401	194/401	195/401	SUBTOTALS GEN. NOTES	SECTION 1	SECTION 2	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
																				1				1	625	14500	1	EACH	LIGHT POLE FOUNDATION, 36" X 35' DEEP
																		7						7	625	15201	7	EACH	LIGHT TOWER FOUNDATION "A", 36" X 25' DEEP, AS PER PLAN
																			1					1	625	15201	1	EACH	LIGHT TOWER FOUNDATION "B", 36" X 25' DEEP, AS PER PLAN
																			1					1	625	15700	1	EACH	LIGHT TOWER FOUNDATION GRADING
											1												1		625	18000	1	EACH	BRACKET ARM, 10'
														2									2		625	18200	2	EACH	BRACKET ARM, 15'
						2								1									3		625	18201	3	EACH	BRACKET ARM, 15', AS PER PLAN
																		1						1	625	20000	1	EACH	PORTABLE POWER UNIT
																		1						1	625	21000	1	EACH	LIGHT TOWER MAINTENANCE PLATFORM, TYPE A
																		6142	1542					7684	625	22900	7684	LIN. FT.	NO. 1/0 AWG, 5000 VOLT DISTRIBUTION CABLE
575			10875	5136	6828	3840	2049	1944	2655	2445	3522	7520	9723	3630	2640	4545		6512	5060		1492	575	67352	13064	625	23200	80991	LIN. FT.	NO. 4 AWG, 5000 VOLT DISTRIBUTION CABLE
175					7515	165					1179									7806		175	8859	7806	625	23300	16,840	LIN. FT.	NO. 2 AWG, 5000 VOLT DISTRIBUTION CABLE
			2038		2357	1135	1035	792	1444	1382	1398	2241	1841	812	697	1620		1632	2352	2668	624		19429	7276	625	23400	26705	LIN. FT.	NO. 10 AWG POLE AND BRACKET CABLE
																			1367	1952	1056			4375	625	24100	4375	LIN. FT.	1-1/2" DUCT CABLE WITH TWO NO. 4 AWG 5000 VOLT CABLES
																				736				736	625	24300	736	LIN. FT.	1-1/2" DUCT CABLE WITH TWO NO. 2 AWG 5000 VOLT CABLES
																		369	874					1243	625	24310	1243	LIN. FT.	1-1/2" DUCT CABLE WITH TWO NO. 1/0 AWG 5000 VOLT CABLES
			840	487	339	1294	1711	1877	1384	1719	1518	1467	147	1558	1473	1671							17485		625	24320	17485	LIN. FT.	1-1/2" DUCT CABLE WITH THREE NO. 4 AWG 5000 VOLT CABLES
					299																		299		625	24330	299	LIN. FT.	1-1/2" DUCT CABLE WITH THREE NO. 2 AWG 5000 VOLT CABLES
			970		479	51	10	38	1	10		109		22	19	44		5542	2190	3619			1753	11351	625	25400	13104	LIN. FT.	CONDUIT, 2", 713.04
			85	1456				130						986	273								2930		625	25401	2930	LIN. FT.	CONDUIT, 2", 713.04, AS PER PLAN
30					188	48		9			5		19			54			93		706	30	323	799	625	25500	1152	LIN. FT.	CONDUIT, 3", 713.04
				38	89			192		107	55				103			357	517	302	186		584	1362	625	25900	1946	LIN. FT.	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3", 713.04
1			415	180	1167	400	280	238	342	210	721	414	418	355	644	315		815	145			50	6099	960	625	25920	7109	LIN. FT.	EXISTING CONDUIT CLEANED, MISC.
																			5	8	1			14	625	26200	14	EACH	LUMINAIRE, STYLE B, TYPE II, 200 WATT, HIGH PRESSURE SODIUM, 713.11, 480 VOLT
			6		11	13	1	6	9	10	15	1	17		5				6				94	6	625	26202	100	EACH	LUMINAIRE, STYLE B, TYPE II, 200 WATT, HIGH PRESSURE SODIUM, 713.11, 240 VOLT
																					6			6	625	26300	6	EACH	LUMINAIRE, STYLE B, TYPE III, 200 WATT, HIGH PRESSURE SODIUM, 713.11, 480 VOLT
																		16	14	26				56	625	26600	56	EACH	LUMINAIRE, STYLE C, TYPE II, 310 WATT, HIGH PRESSURE SODIUM, 713.11, 480 VOLT
			19		19		9	3	5	3		20		9	3	17							107		625	26302	107	EACH	LUMINAIRE, STYLE B, TYPE III, 200 WATT, HIGH PRESSURE SODIUM, 713.11, 240 VOLT
																		12						12	625	27000	12	EACH	LUMINAIRE, ASYMMETRIC, 400 WATT HIGH PRESSURE SODIUM, 713.21, 480 VOLT
																		24	12					36	625	27200	36	EACH	LUMINAIRE, SYMMETRIC, 400 WATT HIGH PRESSURE SODIUM, 713.21, 480 VOLT
				2			18	14		4											6		38	6	625	27500	44	EACH	LUMINAIRE, UNDERPASS, HIGH PRESSURE SODIUM, 713.13
				21										13	9								43		625	27600	43	EACH	LUMINAIRE, MISC.: UNDERPASS, 150 WATT HIGH PRESSURE SODIUM, 240 VOLT, AS PER PLAN (SEE SHEET 144A)
			2		3			2	2	1					1	2					2		13	2	625	28000	15	EACH	GLARE SHIELD
																		5542	2190	2414				10146	625	29000	10146	LIN. FT.	TRENCH, 12" DEEP
25			566		479	1034	1420	1580	1128	1456	1244	1110	152	1007	1164	1623		179	2001	3595	1516	25	13963	7291	625	29002	21279	LIN. FT.	TRENCH, 24" DEEP
				409		65						63		233	25	24							819		625	29500	819	LIN. FT.	TRENCH IN PAVED AREA, TYPE A
																									625	25920	500	LIN. FT.	CONDUIT, MISC.: 2" RIGID CONDUIT, 713.04, IN STRUCTURE (SEE SHEET 144A)
																									625	98000	25	EACH	LIGHTING, MISC.: 2" RIGID CONDUIT EXPANSION FITTING (SEE SHEET 144A)
			1	3				1				1		9	4								19		625	29900	19	EACH	JUNCTION BOX
			1		2																		3		625	29910	3	EACH	TRANSITION JUNCTION BOX
			4		2																		6		625	29920	6	EACH	STRUCTURE JUNCTION BOX
			2	7		10	6	7	4	3	13	5	2	11	5	9		4	6	6	4		84	20	625	30700	104	EACH	PULL BOX, 713.08, 18"
																		10	2	3				15	625	30701	15	EACH	PULL BOX, 713.08, 18", AS PER PLAN
			1		4		1	1			5				1								13		625	30706	13	EACH	PULL BOX, 713.08, 24"
			2		8		4	1	2	4		1	1			2			2				25	2	625	31500	27	EACH	MEDIAN PULL BOX
			11		18	7	10	9	11	13	7	9	3	8	6	14		22	19	21	7		126	69	625	32000	195	EACH	GROUND ROD

EC-1 C:\88090\88090G12.DWG OCTOBER-21-1994 USER: RGARDNER TIME:09:13

UAT

CALC. BY / DATE / CHKD. BY / DATE

GENERAL SUMMARY

LIGHTING QUANTITIES

SHEET NUMBER – SECTION 1: 143-144/401	147/401	153/401	154/401	155/401	156/401	157/401	158/401	159/401	160/401	161/401	162/401	163/401	164/401	165/401	166/401	167/401	168/401	SECTION 2: 191/401	192/401	193/401	194/401	195/401	SUBTOTALS: GEN. NOTES	SECTION 1	SECTION 2	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
							1	1	2		1						2			2	1	1		7	4	625	34001	11	EACH	POWER SERVICE, AS PER PLAN
				1																				1		625	34001	1	EACH	POWER SERVICE "A", AS PER PLAN
					2																			2		625	34001	2	EACH	POWER SERVICE "B", AS PER PLAN
													1		1	2								4		625	34001	4	EACH	POWER SERVICE "C", AS PER PLAN
								1	1													4		2	4	625	37100	6	EACH	SERVICE TO UNDERPASS LIGHTING
					15											3								18		625	37101	18	EACH	SERVICE TO UNDERPASS LIGHTING "A", AS PER PLAN
					1																			1		625	37101	1	EACH	SERVICE TO UNDERPASS LIGHTING "B", AS PER PLAN
									1															1		625	37101	1	EACH	SERVICE TO UNDERPASS LIGHTING "C", AS PER PLAN
					1			4	4						6									15		625	37101	15	EACH	SERVICE TO UNDERPASS LIGHTING REFURBISHED, AS PER PLAN
	LUMP																						LUMP			625	38000	LUMP		HIGH VOLTAGE TEST
																							LUMP		LUMP	625	39001	LUMP		TEMPORARY LIGHTING, AS PER PLAN (SEE SHEET 144A)
LUMP																							LUMP			SPECIAL	62540000	LUMP		MAINTAIN EXISTING LIGHTING
1																							1			SPECIAL	62540010	1	EACH	REPLACEMENT OF EXISTING LIGHTING UNIT
		2	1															1						3	1	SPECIAL	62540020	4	EACH	DISCONNECT EXISTING CIRCUIT
							1		1				1			1	1							5		625	98000	5	EACH	ELECTRIC SERVICE
				2		1		1				3	2		1	2	2		2	4				14	6	625	98000	20	EACH	REFURBISH SIGN SERVICE "A", AS PER PLAN
				1		3		1		1	1													7		625	98000	7	EACH	REFURBISH SIGN SERVICE "B", AS PER PLAN
				1																				1		625	98000	1	EACH	REFURBISH SIGN SERVICE "C", AS PER PLAN
		1	2																					3		625	98000	3	EACH	DISCONNECTION OF MESSENGER CABLE, LIGHTING, MISC.
			1		1																			2		625	98000	2	EACH	DISCONNECTION OF TRAFFIC CONTROL CIRCUITS AND RELOCATION, LIGHTING, MISC.
		2	1																					3		625	98000	3	EACH	REMOVE BRACKET ARM, LIGHTING, MISC.
		15																6						15	6	625	98000	21	EACH	WIRE TERMINATION AT PILASTER, LIGHTING, MISC.
		5																						5		625	98000	5	EACH	WIRE TERMINATION AT RETAINING WALL, LIGHTING, MISC.
				1																				1		625	98000	1	EACH	MODIFICATION TO EXISTING CIRCUIT RACEWAY "A", LIGHTING, MISC.
				1	2																			3		625	98000	3	EACH	MODIFICATION TO EXISTING CIRCUIT RACEWAY "B", LIGHTING, MISC.
				1	1										1									3		625	98000	3	EACH	REMOTE PHOTOCELL "A", LIGHTING, MISC.
													1	1										2		625	98000	2	EACH	REMOTE PHOTOCELL "B", LIGHTING, MISC.
					1										1									2		625	98000	2	EACH	REMOTE PHOTOCELL "C", LIGHTING, MISC
					1																									
									2															2		625	98000	2	EACH	REFURBISH CONDUIT STUB OUT, LIGHTING, MISC.
								2			3						1			1				6	1	625	98000	7	EACH	CONNECTION TO EXISTING CONDUIT, LIGHTING, MISC.
							2					6			1	1								10		625	98000	10	EACH	ELECTRIC SERVICE CONNECTION TO PEDESTAL LIGHT, AS PER PLAN, LIGHTING, MISC.
				28		13	10			3		5	14	18		2			3	3				93	6	625	98000	99	EACH	JUNCTION BOX EXTENSION "A", LIGHTING, MISC.
					4		2								1									7		625	98000	7	EACH	ELECTRIC SERVICE CONNECTION, LIGHTING, MISC.
LUMP																							LUMP			SPECIAL	69098400	LUMP		UNDERGROUND UTILITIES, ODOT/GOVERNMENT OWNED AND MAINTAINED, ROADWAY, MISC.
															73									73		632	40500	73	LIN. FT.	SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG.
												1			2									3		632	84301	3	EACH	COMBINATION STRAIN POLE, TYPE TC-81.10, DESIGN 3, AS PER PLAN
															2									2		632	90104	2	EACH	REUSE OF MESSENGER CABLE, AS PER PLAN

SECTION 1

SCHEMATIC PLAN

CALC. BY DATE CHKD. BY DATE	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	149/401

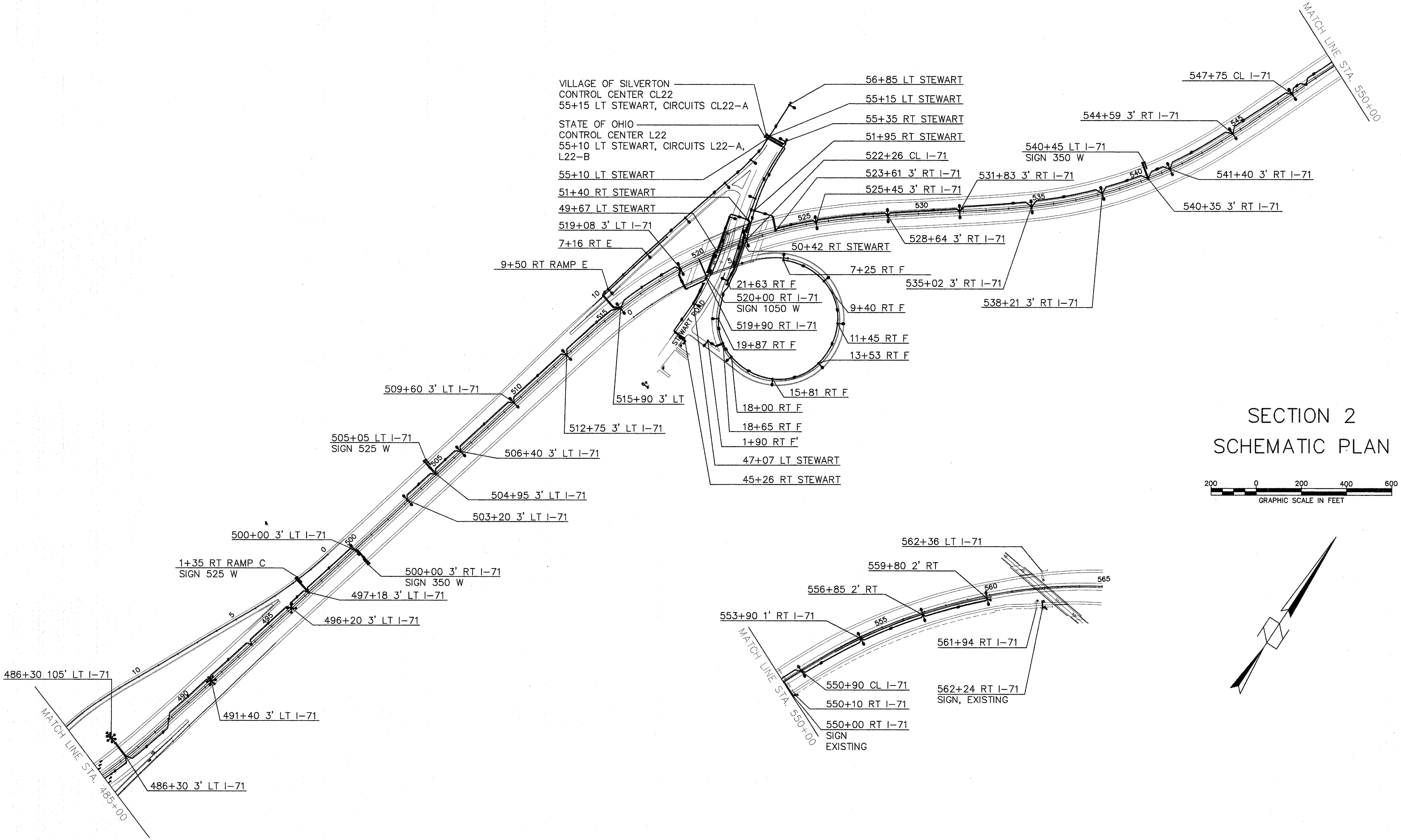
SECTION 1

SCHEMATIC PLAN

LIGHTING SCHEMATIC

SECTION 2

SCHEMATIC PLAN



SECTION 2
SCHEMATIC PLAN

LIGHTING SCHEMATIC

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 1
1 of 16

CALCULATED BY: [signature] DATE: 10-21-94
CHECKED BY: Gerald A. Petrie DATE: 10-21-94

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	ITEM 202 LIGHT POLE REMOVED (EA.)	ITEM 202 LIGHT POLE FOUNDATION REMOVED (EA.)	ITEM 202 LUMINAIRE REMOVED (EA.)	ITEM 202 PULL BOX REMOVED (EA.)	ITEM SPECIAL REMOVE BRACKET ARM (EA.)	ITEM SPECIAL DISCONNECT EXISTING CIRCUIT (EA.)	ITEM SPECIAL WIRE TERMINATION AT RETAINING WALL (EA.)	REMOVE POWER SERVICE "A", AS PER PLAN (EA.)	POWER SERVICE REMOVED (EA.)	EXISTING CONDUIT REMOVED (L.F.)		WIRE TERMINATION AT PILASTER (EA.)
169		7+37	7+57	FIFTH ST (FC)	RT				1		1						
169		135+91 47.5 RT	150+56 RAMP A	RAMP B	RT	3	3	4	2								
		138+07	150+62 RAMP A	RAMP B	LT/RT				1								
		150+62		RAMP A	RT/LT												
		151+74		RAMP A	RT	1	1	1									
		150+62	147+75	RAMP A	LT	2		2									
		136+38	140+10	NB I-71	RT	5	4	5	4								
		139+60	137+75 SB I-71	NB I-71	RT/LT								1				
		133+84	137+42	SB I-71	LT	5		5	1			5					
		14+75		SENTINEL	RT				1								
		137+75	149+00	SB I-71	LT	7	7	7					1				7
		139+48	144+84 NB I-71	RAMP B	RT	5		5									1
		144+84	149+00	NB I-71	RT	2		2									2
		14+25 50' RT		EGGLESTON	RT								1				
170		149+00	149+42	NB I-71	RT	1		1									1
		150+28	151+40	SB I-71	LT	1		2									
		151+40	9+26.5 LT GILBERT	SB I-71	LT										20		
		151+40	160+55	SB I-71	LT	6	2	11	6								
		157+90	40+60 RT RAMP GF	SB I-71	LT												
		40+60	39+04	RAMP GF	RT												
		39+04	UNDERPASS LIGHTING	RAMP GF	RT												
		162+21	164+00	SB I-71	LT	2	2	2	3								
		158+15	158+00 I-471	SB I-71	LT/RT				2								2
		151+10	158+03	NB I-71	RT	5	5	5	2								
		155+90		NB I-71	RT/CL				1								
		157+72	164+00	NB I-471	RT	4	2	4	4								2
		161+16		RAMP GD	RT/LT				2								
		161+03		RAMP GD	RT				1								
		151+98	39+00 RAMP GG	NB I-471	RT	6	2	8	3	2							
		160+70	8+82 VAN METER	NB I-471	RT/LT				2					1			
		8+85		VAN METER	LT/RT				2								
		39+04	34+22	RAMP GF	RT	2		2									
		SUB-TOTAL SHEET 1 OF 16				57	28	66	38	2	1	5	3	1	20		15

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	ITEM 202 LIGHT POLE REMOVED (EA.)	ITEM 202 LIGHT POLE FOUNDATION REMOVED (EA.)	ITEM 202 LUMINAIRE REMOVED (EA.)	ITEM 202 PULL BOX REMOVED (EA.)	ITEM SPECIAL REMOVE BRACKET ARM (EA.)	ITEM SPECIAL DISCONNECTION OF MESSENGER CABLE (EA.)	ITEM SPECIAL WIRE TERMINATION AT RETAINING WALL (EA.)	ITEM SPECIAL DISCONNECT EXISTING CIRCUIT (EA.)	REMOVE POWER SERVICE "A", AS PER PLAN (EA.)	ITEM 202 POWER SERVICE REMOVED (EA.)	EXISTING CONDUIT REMOVED (L.F.)	SPECIAL WIRE TERMINATION AT PILASTER (EA.)
171		164+26	31+20 RT GILBERT	RAMP GD	RT	5	2	5	1								
		174+78	174+98	NB I-71	RT	1	1	1	1						1		
		15+62		ELSINORE	RT				1								
		176+30	178+82	NB I-71	RT	3	3	3									
		39+00	29+92 RAMP GF	RAMP GG	LT	5	2	5	4								
		34+11	30+30	RAMP GF	RT	3	2	3	1								
		165+60	168+52	NB I-71	RT	3	3	3									
		168+51	168+51	RAMP GD	LT/RT				2								
		164+00	175+20	SB I-71	LT	6	6	6	9								
		24+56	13+25 RT ELSINORE	SB GILBERT	LT	5	5	5	6						1		
		27+50	169+80 RAMP GA	SB GILBERT	LT/LT	1	1	1	1								
		173+57	173+60 LT NB I-71	RAMP GA	LT/LT												
		171+13	176+33 SB I-71	NB I-71	CL	2	2	2	3								
		13+20		ELSINORE	RT				1								
		8+45		READING	LT				1				1				
		14+11	14+17	SB READING	RT				2								
		13+33 39' RT	10+89 EL (N)	SB READING	RT	2	2	2	3								
		10+43	10+67 48' LT	ELSINORE	CL/LT	1	1	1	2		1						
		11+34 45' LT	11+35	ELSINORE	LT				2								
		12+40	15+40 NB READING	ELSINORE	LT	1	1	1	3								
		15+40	17+15	NB READING	RT	1		1									
		176+37	178+85	RAMP RD	RT	2		2									
		176+52	179+00	RAMP GA	LT	1	1	1	2								
		177+63	179+00	SB I-71	LT	1	1	1	2								
		178+85	179+00	SB I-71	RT	1	1	1	1								
			SUB-TOTAL SHEET 1 OF 16			44	34	44	48		1		1		2		
			SUB-TOTAL SHEET 1 OF 16			57	28	66	38	2		5	1	3	1	20	15
			TOTAL SHEET 1 OF 16			101	62	110	86	2	1	5	2	3	3	20	15

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 1
2 of 16

CALCULATED BY: [signature] DATE: 10-21-94
CHECKED BY: Donald A. Petric DATE: 10-21-94

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	LIGHT POLE REMOVED (ITEM 202)	LIGHT POLE FOUNDATION REMOVED (ITEM 202)	(ITEM 202)	LUMINAIRE REMOVED (ITEM 202)	PULL BOX REMOVED (ITEM 202)	REMOVE BRACKET ARM (ITEM SPECIAL)	WIRE TERMINATION AT RETAINING WALL (ITEM SPECIAL)	(202)	(202)	POWER SERVICE REMOVED (202)	EXISTING CONDUIT REMOVED (202)	(202)
						EA.	EA.		EA.	EA.	EA.	EA.			EA.	L.F.	
172		178+85	193+00 NB I-71	RAMP RD	RT	9	4		9	3							
		179+00	184+43	NB I-71	RT	3	3		3	1							
		179+84	21+08 RT NB READING	NB I-71	LT	2	2		2	1							
		17+15	21+08	NB READING	RT	3			3								
		182+18	186+26 LT RAMP RF	RAMP RB	LT	3			3	2							
		184+61	22+67 LT NB READING	RAMP RF	LT					1							
		22+67	26+24	NB READING	LT	3			4								
		179+00	193+00	SB I-71	LT	9	5		10	3							
		187+84	188+86	RAMP GA	RT	1			1	1							
		180+18	182+48	RAMP GA	LT	2	2		2	1							
		184+52		RAMP GA	LT	1	1		1								
		16+87	22+64	SB READING	RT	2	2		2	2							
		18+90	19+37	SB READING	LT					2					2		
		182+86	19+36	RAMP RD	RT/LT					1							
		185+74	193+00	NB I-71	LT	5			5								
		187+50	193+04	RAMP RB	RT	4	4		4	2							
		190+27	193+21	RAMP RB	RT	2			2	1							
		28+26		NB READING	LT	1	1		1								
		29+14		NB READING	LT/RT					2							
		29+21		NB READING	RT	1	1		1								
		190+33	193+00	RAMP RA	LT												
		193+00	31+35 LT NB READING	RAMP RA	LT						1						
		193+00	193+18	RAMP RA	LT												
		9+96	11+83	EDEN PARK	RT	1	1		1	1							
		11+83	11+83	EDEN PARK	RT/LT					2							
		10+12	11+83	EDEN PARK	LT	1	1		1	1							
		SUB-TOTAL SHEET 2 OF 16				53	27		55	27	1				2		

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	LIGHT POLE REMOVED (ITEM 202)	LIGHT POLE FOUNDATION REMOVED (ITEM 202)	DISCONNECTION OF TRAFFIC CONTROL CIRCUITS & RELOCATION (SPEC.)	LUMINAIRE REMOVED (ITEM 202)	PULL BOX REMOVED (ITEM 202)	REMOVE BRACKET ARM (ITEM SPECIAL)	WIRE TERMINATION AT RETAINING WALL (ITEM SPECIAL)	DISCONNECTION OF MESSENGER CABLE (ITEM SPECIAL)	REMOVE POWER SERVICE "B", AS PER PLAN (ITEM 202)	POWER SERVICE REMOVED (ITEM 202)	EXISTING CONDUIT REMOVED (ITEM 202)	DISCONNECT EXISTING CIRC. (SPEC.)
						EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	EA.
173		19+28	18+30	EDEN PARK	LT					1					1		
		18+30	195+00 90' RT FLOR.	EDEN PARK	LT					2				1			
		193+00	208+00	NB I-71	RT	6	3		6	3							
		194+45	195+00 RT FLORENCE	NB I-71	RT/DN												
		197+00	197+45 RT RAMP RB	NB I-71	RT/DN					1							
		193+00	208+00	NB I-71	LT	6	4		6	3							
		194+44	17+02 LT EDEN PARK	NB I-71	LT/DN												
		17+02	195+00 90' RT FLOR.	EDEN PARK	LT					2							
		197+32	202+58	SB I-71	RT	3	3		3								
		193+23	195+90	SB I-71	LT	2	1		2								
		194+74	15+60 LT EP	SB I-71	LT/DN					1							
		193+18	208+00 SB I-71	RAMP RA/GA	LT	8	5		8	5							
		194+77	15+13 LT EP	SB I-71	LT/DN									1			
		195+08		RAMP RB	LT	1	1		1								
		16+45	16+35	EDEN PARK	RT/LT	1	1	1	1	1			1				
		15+15		EDEN PARK	LT					1							
		14+96		EDEN PARK	LT					1							
		14+90	31+23 LT SB READING	EDEN PARK	LT	1	1		1	3			1				
		13+38	13+10	EDEN PARK	LT	1	1		1	1							
		34+20	34+65	READING	RT	2	2		2	1							
		41+90		READING	RT					1							
174		208+00	212+98	NB I-71	RT	3	3		3	3							
		208+00	214+31	NB I-71	CL	3	3		6	3							
		208+00	213+32 LT SB I-71	NB I-71	LT	2			2	1							
		211+76	211+76	NB I-71	RT/LT					3							
		211+79		NB I-71	LT										1		
		217+17		NB I-71	CL												1
		SUB-TOTAL SHEET 2 OF 16				39	28	1	42	37			2	2	2		
		SUB-TOTAL SHEET 2 OF 16				53	27		55	27	1				2		
		TOTAL SHEET 2 OF 16				92	55	1	97	64	1		2	2	4		1

* DAVIT ARM VALMONT DS90 OR EQUAL
** TWIN DAVIT ARM VALMONT DS90 OR EQUAL
*** TWIN DAVIT ARM VALMONT OR EQUAL, AS PER PLAN

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 1
3 of 16

CALCULATED BY: [signature] DATE: 10-21-94
CHECKED BY: [signature] DATE: 10-21-94

		STATION				ITEM 625							SPECIAL		ITEM 625														SPEC.	ITEM 625					SPEC.	ITEM 625			ITEM 625							
SHEET NO.	REFERENCE NO.	FROM	TO	LOCATION	SIDE	* LIGHT POLE DESIGN A10B40	* LIGHT POLE DESIGN AT12B41.7	** LIGHT POLE DESIGN AT10BB41.7	* LIGHT POLE DESIGN AT10B41.7	*** LIGHT POLE DESIGN 7A12DD40D	*** LIGHT POLE DESIGN 7A12DD40	LUMINAIRE, STYLE B, TYPE III, 200 WATT H.P.S. 713.11, 240 VOLT	MODIFICATION TO EXIST. CIRCUIT RACEWAY "A"	MODIFICATION TO EXIST. CIRCUIT RACEWAY "B"	STRUCTURE JUNCTION BOX	GLARE SHIELD	LUMINAIRE, STYLE B, TYPE II, 200 WATT H.P.S. 713.11, 240 VOLT	LIGHT POLE FOUNDATION, 24" X 8' DEEP	LIGHT POLE ANCHOR U-BOLTS, AS PER PLAN	PULL BOX CONCRETE, 18"	PULL BOX CONCRETE, 24"	GROUND ROD	REFURBISH SIGN SERVICE "B" AS PER PLAN	MEDIAN LIGHT POLE FOUNDATION, 8' DEEP, AS PER PLAN	MEDIAN PULL BOX	REFURBISH SIGN SERVICE "A", AS PER PLAN	CONDUIT, 2", 713.04	CONDUIT, 2", 713.04, AS PER PLAN	JUNCTION BOX EXTENSION "A"	REFURBISH SIGN SERVICE "C", AS PER PLAN	TRENCH 24" DEEP	POLE AND BRACKET CABLE NO. 10	DISTRIBUTION CABLE NO. 2 AWG, 5000 VOLT	DISTRIBUTION CABLE NO. 4 AWG, 5000 VOLT	REMOTE PHOTOCELL "A"	TRANSITION JUNCTION BOX	1-1/2" DUCT CABLE WITH 3 NO. 4 AWG 5000 VOLT CABLES	EXISTING CONDUIT CLEANED	POWER SERVICE "A", AS PER PLAN	CONNECTOR KIT TYPE VII A	CONNECTOR KIT TYPE VII B	CONNECTOR KIT TYPE VII C	CONNECTOR KIT TYPE II	CONNECTOR KIT TYPE III	CABLE SPLICING KIT	JUNCTION BOX
						EA.	EA.	EA.	EA.	EA.	EA.		EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	L.F.	EA.	EA.	L.F.	L.F.	L.F.	L.F.	EA.	EA.	L.F.	L.F.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.
175	L2A	11+82	136+62 NB I-71	SENTINEL	RT																1			1														94	85							3	
		136+00	136+62	NB I-71	CL					1		2										1		1								134		216									2			
		136+62	137+55	NB I-71	CL																				1									309							3					
		137+55	139+20	NB I-71	CL					1		2										1		1								134		525									2			
		139+20	139+30 LT	NB I-71	CL					1		2										1		1								134		60									2			
		139+30	139+62	NB I-71	LT																						32							126		1										
		139+62	141+28	NB I-71	LT																				1		166							528							3					
		141+28	143+56	NB I-71	LT						1	2			1	1			2			1					228					134		714									2			
		143+56	145+84	NB I-71	LT						1	2			1				2			1					228					134		714									2			
		145+84	148+12	NB I-71	LT						1	2			1				2			1					228					134		714									2			
		148+12	149+00	NB I-71	LT						1	2			1				2			1					88					134											2			
		139+62		NB I-71	LT/DOWN																													54												
												1																																		
	L2B	135+91	137+02	RAMP B	RT		1					1						1				1									157	108					167						2			
		137+02	137+84	RAMP B	RT		1											1				1									105	108					115						2			
		150+56	137+84 RAMP B	RAMP A	RT			1				1				1	1	1				1									23	144					33						2			
		151+74	137+84 RAMP B	RAMP A	RT				1								1	1				1									97	104					107						2			
		137+84	150+62 RAMP A	RAMP B	RT/LT																1					1											55	45							6	
		150+62	149+22	RAMP A	LT																								1					450						3						
		149+22	147+75	RAMP A	LT	1											1												2			106		465									2			
		147+75		RAMP A	LT	1											1												1			106											2			
		137+84	139+43 NB I-71	RAMP B	RT																										184						269	265								
		139+43	139+60	NB I-71	RT															1														90				20								
		139+60	139+62	NB I-71	RT/DOWN								1																					189												
176	L2	139+62 (BELOW)	137+75 SB I-71(BELOW)	NB I-71	CL/LT																													540												
175	L2B	139+48	140+84	RAMP B	RT	1											1												1			106		438									2			
		140+84	141+91 NB I-71	RAMP B	RT	1											1												2			106		381									2			
		141+91	143+36	NB I-71	RT	1						1																	2			106		495									2			
		143+36	144+84	NB I-71	RT	1						1																	1			106		474									2			
		142+27	144+84	SB I-71	RT																							85		1				450												
		144+84	145+35 SB I-71	NB I-71	RT/LT									1															1					495							3					
		145+35	138+79	SB I-71	LT																								7					1998												
		138+79	137+75	SB I-71	LT																					1			2					342							3					1
	L2	137+75	137+75 48' LT	SB I-71	LT																													108												
		137+75 48' LT	POWER SERVICE L2	SB I-71	LT																														1				1							
	–	146+30	147+85	NB I-71	RT																								3																	
	–	145+85	148+55	SB I-71	LT																								5																	
			TOTAL SHEET 3 OF 16			6	2	1	1	3	4	19	1	1	4	2	6	4	8	2	1	11	1	3	2	2	970	85	28	1	566	2038		10875	1	1	840	415	1	3	12		34		9	1

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 1
4 of 16

CALCULATED BY: [signature] DATE: 10-21-94
CHECKED BY: Gerald A. Petric DATE: 10-21-94

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	ITEM 202 REMOVE UNDERPASS LUMINAIRE AND SUPPORTS (EA.)	ITEM 625 SERVICE TO UNDERPASS LIGHTING "B", AS PER PLAN (EA.)	ITEM 625 SERVICE TO UNDERPASS LIGHTING REFURBISHED, AS PER PLAN (EA.)	ITEM 625 PULL BOX CONCRETE, 18" (EA.)	ITEM 625 SERVICE TO UNDERPASS LIGHTING "A", AS PER PLAN (EA.)	ITEM 625 UNDERPASS LUMINAIRE HIGH PRESSURE SODIUM 713.13 (EA.)	ITEM 625 UNDERPASS LUMINAIRE 150 WATT H.P.S. 240 VOLT AS PER PLAN (EA.)	ITEM SPECIAL ELECTRIC SERVICE CONNECTION (EA.)	ITEM SPECIAL REMOTE PHOTOCELL "A" (EA.)	ITEM 625 CONDUIT, 2", 713.04, AS PER PLAN (L.F.)	ITEM 625 CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3" (L.F.)	ITEM 625 TRENCH IN PAVED AREA, TYPE "A" (L.F.)	ITEM SPECIAL MODIFICATION TO EXIST. CIRCUIT RACEWAY "B", AS PER PLAN (EA.)	ITEM SPECIAL DISCONNECTION OF TRAFFIC CONTROL CIRCUITS & RELOCATION (EA.)	ITEM SPECIAL REMOTE PHOTOCELL "C" (EA.)	ITEM 625 DISTRIBUTION CABLE NO. 4 AWG, 5000 VOLT (L.F.)	ITEM 625 POWER SERVICE "B", AS PER PLAN (EA.)	ITEM 625 1-1/2" DUCT CABLE WITH 3 NO. 4 AWG 5000 VOLT CABLES (L.F.)	ITEM 625 EXISTING CONDUIT CLEANED (L.F.)	ITEM 625 CONNECTOR KIT TYPE VII A (EA.)	CONNECTOR KIT TYPE VII B	CONNECTOR KIT TYPE VII C	ITEM 625 CONNECTOR KIT TYPE II (EA.)	CONNECTOR KIT TYPE III	ITEM 625 CABLE SPLICING KIT (EA.)	ITEM 625 JUNCTION BOX (EA.)
175	–	7+17	7+57	FIFTH ST (FC)	RT				1								40			1			50							3	
↓	–	7+57		FIFTH ST (FC)	RT				1				1																	3	
176	CL3A	12+90	12+23	CULVERT	RT/LT	1	1		1		1					38	77						125							3	
	CL3A	12+23		CULVERT	LT	1		1	1		1		1																	3	
	CL3A	14+75	137+75 LT SB I-71	SENTINEL	RT				1				1				140						150							3	
	CL3A	137+75	137+75 40.5' LT	SB I-71	LT				1															30						3	
	CL3A	137+75 40.5' LT	POWER SERVICE CL3	SB I-71	LT														1			1									
	CL1A	138+79	139+18	SB I-71	LT	1				1		1			39						147				3						
		139+18	140+00	SB I-71	LT	1				1		1			82						276					3					
		140+00	140+45	SB I-71	LT	1				1		1			45						165					3					
		140+45	145+35	SB I-71	LT								1		310						960					3					3
		145+35	146+32	SB I-71	LT	2				1		2			97						321						3				
		146+32	147+79	SB I-71	LT	1				1		1			147						471					3					
		147+79	148+55	SB I-71	LT	1				1		1			76						258					3					
		148+55		SB I-71	LT	1				1		1													3						
		145+35	15+45 RT EGGLESTON	SB I-71	LT/DOWN													1			204			40							
	↓	15+45	14+25	EGGLESTON	RT				1								152						162	110						3	
	CL1B	140+84	141+78	RAMP B	RT	1				1		1			94						312				3						
		141+78	141+91 NB I-71	RAMP B	RT	2				1		2			47						171					3					
		141+91	142+78	NB I-71	RT	2				1		2			87						291					3					
		142+78	143+36	NB I-71	RT	1				1		1			58						204					3					
		143+36	144+84	NB I-71	RT	1				1		1			148						474					3					
		144+84	146+30	NB I-71	RT	4				1		4			146						468						3				
		146+30	147+10	NB I-71	RT	1				1		1			80						270					3					
		147+10		NB I-71	RT	1				1		1													3						
		144+84	14+25 EGGLESTON	NB I-71	RT									1				1			144										
↓	↓	14+25 56' RT	POWER SERVICE CL1	EGGLESTON	RT																	1									
			TOTAL SHEET 4 OF 16			23	1	1	7	15	2	21	4	1	1456	38	409	2	1	1	5136	2	487	180	12	30	6			21	3

EC-1 C:\88090\88090S1B.DWG OCTOBER-20-1994 USER: RGARDNER TIME:15:16

* DAVIT ARM VALMONT DS90 OR EQUAL

*** TWIN DAVIT ARM VALMONT OR EQUAL, AS PER PLAN

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 1
5 of 16

CALCULATED BY: [illegible] DATE: [illegible]

CHECKED BY: [illegible] DATE: [illegible]

		STATION				ITEM 625																								SPECIAL		ITEM 625									ITEM 625					
SHEET NO.	REFERENCE NO.	FROM	TO	LOCATION	SIDE	* LIGHT POLE DESIGN A8B40	* LIGHT POLE DESIGN AT12B41.7	LUMINAIRE, STYLE B, TYPE III, 200 WATT H.P.S. 713.11, 240 VOLT	* LIGHT POLE DESIGN AT15B41.7	*** LIGHT POLE DESIGN 7A12DD40D	* LIGHT POLE DESIGN A8B40D	*** LIGHT POLE DESIGN 7A12DD40		* LIGHT POLE DESIGN A10B40	STRUCTURE JUNCTION BOX	* VARIABLE HEIGHT STANDARD	GLARE SHIELD	LUMINAIRE, STYLE B, TYPE II, 200 WATT H.P.S. 713.11, 240 VOLT	LIGHT POLE FOUNDATION, 24" X 8' DEEP	LIGHT POLE ANCHOR U-BOLTS, AS PER PLAN	PULL BOX CONCRETE, 18"	PULL BOX CONCRETE, 24"	GROUND ROD	TRANSITION JUNCTION BOX	MEDIAN LIGHT POLE FOUNDATION, 8' DEEP, AS PER PLAN	MEDIAN PULL BOX	REFURBISH SIGN SERVICE "A", AS PER PLAN	CONDUIT, 2", 713.04	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3"	JUNCTION BOX EXTENSION "A"		TRENCH 24" DEEP	POLE AND BRACKET CABLE NO. 10	DISTRIBUTION CABLE NO. 2 AWG, 5000 VOLT	DISTRIBUTION CABLE NO. 4 AWG, 5000 VOLT	CONDUIT, 3", 713.04	REFURBISH SIGN SERVICE "B", AS PER PLAN	1-1/2" DUCT CABLE WITH 3 NO. 4 AWG 5000 VOLT CABLES	1 1/2" DUCT CABLE WITH 3 NO. 2 AWG 5000 VOLT CABLES	EXISTING CONDUIT CLEANED	CONNECTOR KIT TYPE VII A	B	C	CONNECTOR KIT TYPE II	III	CABLE SPLICING KIT
						EA.	EA.	EA.	EA.	EA.	EA.	EA.		EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	L.F.	EA.		L.F.	L.F.	L.F.	L.F.	L.F.	EA.	L.F.	L.F.	L.F.	EA.			EA.		EA.
177	–	149+00	150+23																									123																		
	–	150+23	150+28																					1																						
	L5B	150+28	152+00	SB I-71	LT											1		1					1							2			79		546					170				2		
		152+00	152+37	SB I-71	LT											1		1					1							1			95		141					37				2		
		152+37	153+70	SB I-71	LT																						1			1					429					150		3				
		153+70	154+32	SB I-71	LT											1		1					1							1			106		216					62				2		
		154+32	155+65	SB I-71	LT																					1									429							3				
		155+65	157+90	SB I-71	LT									1				1					1										100		705									2		
		157+90	40+60 RT RAMP GF	SB I-71	LT																					1									189					50		3				
		40+60	37+87	RAMP GF	RT																									2					849											
		37+87	35+98	RAMP GF	RT	1												1												2			96		597									2		
		35+98	34+11	RAMP GF	RT	1												1												2			96		591									2		
178		34+11	32+19	RAMP GF	RT	1												1										20		2		20	96		606					190				2		
		32+19	30+30	RAMP GF	RT				1									1	1				1									189	114					199						2		
		30+30		RAMP GF	RT		1											1	1				1										108											2		
177		157+90	158+00	SB I-71	LT																														60											
		158+00	158+15 CL NB I-71	SB I-71	LT			1			1												1										96		75									2		
		158+15		NB I-71	LT/CL																					1									192					60						
	L5A	150+40	152+42	NB I-71	CL			2		1													1		1								128	636										2		
		152+42	154+80	NB I-71	CL			2		1													1		1								128	744										2		
		154+80	155+90	NB I-71	CL			2		1													1		1								128	360										2		
		155+90		NB I-71	CL/RT																					1								192			1			50			3			
		155+90		NB I-71	RT																					1											1			10		3				
		155+90	157+30	NB I-71	CL																													450												
		157+30	158+15	NB I-71	CL			2		1													1		1								128	285										2		
		158+15	159+38 RT SB I-71	NB I-71	CL																					1								399								3				
		159+38	159+80	SB I-71	RT																							42						156												
		159+80	162+30	SB I-71	RT			2				1			1					2			1		1			250					128	780										2		
		162+30	162+74	SB I-71	RT			2				1			1					2			1		1			44					128	162										2		
		162+74	162+75 CL SB I-71	SB I-71	RT																			1										33												
		162+32	162+75	SB I-71	LT					1								1					1		1								105						159					2		
		162+75		SB I-71	LT/RT																					1			89					297			1					3				
		162+75	164+00	NB I-71	CL																					1								375									3			
178		164+00	164+35	NB I-71	CL																													105												
		164+35	166+15	NB I-71	CL			2		1							1						1		1								128	570										2		
		166+15	168+25	NB I-71	CL			2		1							2						1		1								128	660										2		
		168+25		NB I-71	CL			2		1													1		1								128											2		
177	L5	158+15	159+40	NB I-71	CL/RT																											140		720	720	140				95						
	L5	159+40	160+70 NB I-471	NB I-71	RT				1									1	1				1									130	114					140	140		3			2		
	L5A	160+70	161+09 NB I-71	NB I-471	RT																	1												108						40						6
	L5A	161+09	NB I-71						1																																					
	L5	160+70	42+60 RT RAMP GG	NB I-71	LT																													240	240					68						
	L5	42+60		RAMP GG	RT/LT																	1												99	99					35						
	L5	42+60	8+82 LT VAN METER	RAMP GG	LT																	1												144	144	48				40						
	L5	8+82		VAN METER	LT																	1																								6
			TOTAL SHEET 5 OF 16			3	1	19	3	8	1	2		1	2	3	3	11	3	4		4	18	2	10	8	1	479	89	13		479	2357	7515	6828	188	3	339	299	1057	3	18	6	42		12

* DAVIT ARM VALMONT DS90 OR EQUAL

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 1
6 of 16

CALCULATED BY: [illegible] DATE: [illegible]
CHECKED BY: [illegible] DATE: [illegible]

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	ITEM 625 * LIGHT POLE DESIGN A8B40 (EA.)	* LIGHT POLE DESIGN AT15B41.7 (EA.)	BRACKET ARM, 15', AS PER PLAN (EA.)	* VARIABLE HEIGHT STANDARD (EA.)	GLARE SHIELD (EA.)	LUMINAIRE, STYLE B, TYPE III, 200 WATT HPS 713.11, 240 VOLT (EA.)	LIGHT POLE FOUNDATION, 24" X 8' DEEP (EA.)	PULL BOX CONCRETE, 18" (EA.)	GROUND ROD (EA.)	ELECTRIC SERVICE CONNECTION (EA.)	CONDUIT, 2", 713.04 (L.F.)	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3" (L.F.)	CONDUIT, 3", 713.04 (L.F.)	ITEM SPECIAL TRENCH IN PAVED AREA, TYPE A (L.F.)	JUNCTION BOX EXTENSION "A" (EA.)	ITEM 625 TRENCH 24" DEEP (L.F.)	POLE AND BRACKET CABLE NO. 10 (L.F.)	DISTRIBUTION CABLE NO. 2 AWG, 5000 VOLT (L.F.)	DISTRIBUTION CABLE NO. 4 AWG, 5000 VOLT (L.F.)	ELECTRIC SERVICE (EA.)	1-1/2" DUCT CABLE WITH 3 NO. 4 AWG 5000 VOLT CABLES (L.F.)	ELECTRIC SERVICE CONNECTION TO PEDESTAL LIGHT, AS PER PLAN (EA.)	EXISTING CONDUIT CLEANED (L.F.)	POWER SERVICE (EA.)	ITEM 625 CONNECTOR KIT TYPE II (EA.)	CONNECTOR KIT TYPE III (EA.)	CABLE SPLICING KIT (EA.)	CONNECTOR KIT TYPE VIII A (EA.)	B	C
																						30		453						2					
177	L5C	151+98	153+38.5	NB I-471	RT			1			1											30		402						2					
		153+38.5	154+63	NB I-471	RT			1			1										50					60							3		
		154+63	48+07 RAMP GG	NB I-471	RT																108	62				118				2					
		48+07	46+27	RAMP GG	LT				1		1			1							180	80				190				2					
		46+27	44+47	RAMP GG	LT				1		1			1							167	93				177				2					
		44+47	42+80	RAMP GG	LT				1		1			1							23	114				39				2					
		42+80	42+63	RAMP GG	LT		1				1	1		1																					
																					157					161						3			
		42+63	41+00	RAMP GG	LT								1								72	114				82				2					
		41+00	40+72	RAMP GG	LT		1				1	1		1						1				510				170				3			
		40+72	39+12	RAMP GG	LT								1							2		96		540						2					
		39+12	37+42	RAMP GG	LT	1					1																								
																				2		96		546						2					
178		37+42	35+70	RAMP GG	LT	1					1									2		96		540						2					
		35+70	34+00	RAMP GG	LT	1					1					42				1	42	96		498				62		2					
		34+00	32+44	RAMP GG	LT	1					1										147	114				157				2					
		32+44	30+97	RAMP GG	LT		1				1	1		1							40	114				85		78		2					
		30+97	30+30.5	RAMP GG	LT		1				1	1		1										120			1	50				2			
		30+30.5	29+92 RAMP GF	RAMP GG	LT								1														1					2			
		29+92		RAMP GF	LT								1																						
																		48			48			174											
177		42+63	8+85 VAN METER	RAMP GG	LT																											3			
		8+85		VAN METER	LT								1																1						
	L5	8+82 LT VAN METER	POWER SERVICE L5	VAN METER	LT																														
																9								57											
		8+82	8+85	VAN METER	LT																		165					40							
		8+85		VAN METER	LT/RT								1												1										
		8+85		VAN METER	RT								1																						
	–	158+92		SB I-71	LT															1															
	–	160+55		SB I-71	LT															1															
																																3			
178	–	7+70	8+45	SB READING	LT								1						65							225						3			
	–	8+45		SB READING	LT								1		1																				
																																3			
	–	18+25		LIBERTY	LT								1		1																				
			TOTAL SHEET 6 OF 16			4	4	2	3		13	4	10	7	2	51		48	65	10	1034	1135	165	3840	1	1294	2	400	1	26		22	3		

* DAVIT ARM VALMONT DS90 OR EQUAL

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 1
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CALCULATED BY: ____ DATE: ____
CHECKED BY: ____ DATE: ____

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	LIGHT POLE DESIGN A6B40D	LIGHT POLE DESIGN A15B40D *	LIGHT POLE DESIGN AT10B36.7	LIGHT POLE DESIGN AT15B41.7	LIGHT POLE DESIGN A15B40D	LIGHT POLE DESIGN AT8B41.7	LUMINAIRE, STYLE B, TYPE III, 200 WATT H.P.S. 713.11, 240 VOLT	LIGHT POLE DESIGN AT12B41.7	SERVICE TO UNDERPASS LIGHTING	VARIABLE HEIGHT STANDARD	LUMINAIRE, STYLE B, TYPE II, 200 WATT H.P.S. 713.11, 240 VOLT	LIGHT POLE FOUNDATION, 24" X 8' DEEP	PULL BOX CONCRETE, 18"	PULL BOX CONCRETE, 24"	ITEM 625 GROUND ROD	REFURBISH SIGN SERVICE B, AS PER PLAN	MEDIAN LIGHT POLE FOUNDATION, 8' DEEP, AS PER PLAN	MEDIAN PULL BOX	REFURBISH SIGN SERVICE "A", AS PER PLAN	CONDUIT, 2", 713.04	SPEC. CONNECTION TO EXISTING CONDUIT	TRENCH 24" DEEP	POLE AND BRACKET CABLE NO. 10	UNDERPASS LUMINAIRE 100 WATT H.P.S. 713.13	DISTRIBUTION CABLE NO. 4 AWG, 5000 VOLT	EXISTING CONDUIT CLEANED	ITEM 625 SERVICE TO UNDERPASS LIGHTING REFURBISHED, AS PER PLAN	1-1/2" DUCT CABLE WITH 3 NO. 4 AWG 5000 VOLT CABLES	202 REMOVE UNDERPASS LUMINAIRE AND SUPPORTS	CONNECTOR KIT TYPE VII A	CONNECTOR KIT TYPE VII B	CONNECTOR KIT TYPE VII C	POWER SERVICE	CONNECTOR KIT TYPE II	CONNECTOR KIT TYPE III	CABLE SPLICING KIT
						EA.		EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	EA.	L.F.	L.F.	EA.	L.F.	L.F.	EA.	L.F.	EA	EA.			EA.	EA.		EA.
178	L6A	171+13	172+62	NB I-71	LT													1						1			154						164								3
		172+62	173+66 10' LT	NB I-71	LT													1									104		7			1	114	7							3
		173+66 10' LT	173+66	NB I-71	LT													1									10						20								3
		173+66		NB I-71	LT	1						1								1		1						92											2		
		173+66 10' LT	175+05	NB I-71	LT																						140						150								
		175+05	176+33 SB-71	NB I-71	LT													1									150		4			1	160	4							3
		176+33		SB I-71	RT							1	1				1			1								108											2		
		173+66 10' LT	173+73 LT SB I-71	NB I-71	LT																									270	70										
		169+80	171+70	SB I-71	LT		1					1								1		1						110		600									2		
		171+70	172+10	SB I-71	LT									1									1		5	1	40		3	150		1		3		3					
		172+10	172+83	SB I-71	LT																1		1							249	75					3					
		172+83	173+73	SB I-71	LT					1		1				1				1		1						110		294									2		
		173+73	174+20	SB I-71	LT																		1							171							3				
		174+20	175+15	SB I-71	LT							1			1					1								99	4	315									2		
		175+15	175+20	SB I-71	LT																		1		5	1	5					1		4		3					
		173+73	173+57 RAMP GA	SB I-71	LT																										65		70								
		169+80	27+75 SB GILBERT	RAMP GA	LT/RT													1									26				70		72								3
		27+75		SB GILBERT	LT			1				1					1			1								94											2		
		24+56	168+75 RAMP GA	SB GILBERT	LT			1				1					1			1							204	94					214						2		
		168+75	169+80	RAMP GA	LT						1	1					1			1							105	100					115						2		
		169+80	171+50	RAMP GA	LT																						170						180								
		171+50	173+57	RAMP GA	LT				1								1			1							204	114					216						2		
	L6	173+57	173+65	RAMP GA	LT													1									8						26								3
		173+65	13+25 54' RT ELSINORE	RAMP GA	LT				1			1					1			1							100	114					210						2		
		13+25 54' RT		ELSINORE	RT														1																						3
		13+25	POWER SERVICE L6	ELSINORE	RT																																	1			
			TOTAL SHEET 7 OF 16			1	1	2	2	1	1	9	1	1	1	1	6	6	1	10	1	3	4	1	10	2	1420	1035	18	2049	280	4	1711	18		9	3	1	20		21

* DAVIT ARM VALMONT DS90 OR EQUAL

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 1
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CALCULATED BY: [illegible] DATE: [illegible]
CHECKED BY: [illegible] DATE: [illegible]

ITEM 625 | SPECIAL | ITEM 625 | 202

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	LIGHT POLE DESIGN A12B40D * (EA.)	VARIABLE HEIGHT STANDARD *	SERVICE TO UNDERPASS LIGHTING "C" AS PER PLAN (EA.)	SERVICE TO UNDERPASS LIGHTING REFURBISHED AS PER PLAN (EA.)	SERVICE TO UNDERPASS LIGHTING (EA.)	VARIABLE HEIGHT STANDARD (EA.)	GLARE SHIELD (EA.)	LUMINAIRE, STYLE B, TYPE II, 200 WATT H.P.S. 713.11, 240 VOLT (EA.)	LUMINAIRE, STYLE B, TYPE III, 200 WATT H.P.S. 713.11, 240 VOLT (EA.)	CONDUIT, 2" 713.04, AS PER PLAN (L.F.)	PULL BOX CONCRETE, 18" (EA.)	PULL BOX CONCRETE, 24" (EA.)	GROUND ROD (EA.)	MEDIAN LIGHT POLE FOUNDATION, 8' DEEP, AS PER PLAN (EA.)	MEDIAN PULL BOX (EA.)	UNDERPASS LUMINAIRE 100 WATT H.P.S. 713.13 (EA.)	CONDUIT, 2", 713.04 (L.F.)	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3" (L.F.)	CONDUIT, 3", 713.04 (L.F.)	TRENCH 24" DEEP (L.F.)	POLE AND BRACKET CABLE NO. 10 (L.F.)	ELECTRIC SERVICE (EA.)	DISTRIBUTION CABLE NO. 4 AWG, 5000 VOLT (L.F.)	EXISTING CONDUIT CLEANED (L.F.)	REFURBISH CONDUIT STUB OUT (EA.)	1-1/2" DUCT CABLE WITH 3 NO. 4 AWG 5000 VOLT CABLES (L.F.)	REMOVE UNDERPASS LUMINAIRE AND SUPPORTS (EA.)	CONNECTOR KIT TYPE VII A B C (EA.)	POWER SERVICE (EA.)	CONNECTOR KIT TYPE II III (EA.)	CABLE SPLICING KIT (EA.)	JUNCTION BOX (EA.)
177	L7A	159+66.5	161+16	RAMP GD	LT			1								1					1				149						159	1				3	
		161+16		RAMP GD	LT/RT				1							1					3							264	78			3				3	
		161+16	161+25	RAMP GD	RT				1							1					4				27						37	4				3	
		161+25	162+47	RAMP GD	RT															1								396					3		2		
		162+47	164+00	RAMP GD	RT	1							1					1	1							104		435									
178		164+00	164+26	RAMP GD	RT																							138									
		164+26	166+06	RAMP GD	RT	1						1	1					1	1						180	104					190				2		
		166+06	167+86	RAMP GD	RT		1						1					1							180	105					190				2		
		167+86	169+66	RAMP GD	RT		1						1					1							180	89					190				2		
		169+66	171+00	RAMP GD	RT		1						1					1							134	98					144				2		
		171+00	32+63 GILBERT	RAMP GD	RT	1								1				1	1				88		320	104					418				2		
		173+92	174+46	NB I-71	RT				1						54						4							192				4	3				
		174+46	175+22	NB I-71	RT										76													258					3				1
		175+22		NB I-71	RT				1												2											2	3				
		174+46	32+63 LT GILBERT	NB I-71	RT																	17			17			81									
		32+63	174+78 NB I-71	GILBERT	LT					1						1									40						50					3	
		174+78	174+98 73' RT	NB I-71	RT						1			1				1							50	62					60				2		
		174+98 73' RT	176+30	NB I-71	RT											1							104		45						159					3	
		176+30	177+62	NB I-71	RT						1	1	1					1							132	61				2	142				2		
		177+62		NB I-71	RT						1			1				1								65									2		
		174+98 69' RT	POWER SERVICE L7	NB I-71	RT																													1			
	L7	174+98 69' RT	175+04	NB I-71	RT																	12			6			66									
	CL7A	32+59	175+01 73' RT NB I-71	GILBERT	LT																				65				160		75					3	
		175+01 73' RT	15+62 RT EL	NB I-71	RT												1								14						24					3	
		15+62		ELSINORE	RT											1																				3	
		33+19	175+01 RT I-71	GILBERT	LT																				29						39				2		
		175+01 69' RT	POWER SERVICE CL7	NB I-71	RT																													1			
	CL7	175+01 69' RT	175+04	NB I-71	RT																	9			3			57									
		175+04	16+68 RT EL	NB I-71	RT											1								9	9			57								3	
		16+68		ELSINORE	RT																						1										
			TOTAL SHEET 8 OF 16			3	3	1	4	1	3	2	6	3	130	7	1	9	3	1	14	38	192	9	1580	792	1	1944	238	2	1877	14	12	2	20	27	1

SUB-SUMMARY

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 1
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CALCULATED BY: [signature] DATE: 10-21-94
CHECKED BY: Gerald A. Petrie DATE: 10-21-94

						ITEM 625																ITEM SPECIAL	ITEM 625					ITEM 625					
SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	LIGHT POLE DESIGN AT10B41.7	LIGHT POLE DESIGN A12B40D	LIGHT POLE DESIGN AT15B41.7	LIGHT POLE DESIGN A8B40	LUMINAIRE, STYLE B, TYPE III, 200 WATT HPS, 713.11, 240 VOLT	VARIABLE HEIGHT STANDARD	GLARE SHIELD	LUMINAIRE, STYLE B, TYPE II, 200 WATT HPS, 713.11, 240 VOLT	LIGHT POLE FOUNDATION, 24" X 8' DEEP	LIGHT POLE FOUNDATION 24" X 10' DEEP	PULL BOX CONCRETE, 18"	GROUND ROD	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN	MEDIAN PULL BOX	REFURBISH SIGN SERVICE "B", AS PER PLAN	CONDUIT, 2", 713.04	JUNCTION BOX EXTENSION "A"	TRENCH 24" DEEP	POLE AND BRACKET CABLE NO. 10	DISTRIBUTION CABLE NO. 4 AWG, 5000 VOLT	1-1/2" DUCT CABLE WITH 3 NO. 4 AWG 5000 VOLT CABLES	EXISTING CONDUIT CLEANED	CONNECTOR KIT TYPE VII A	CONNECTOR KIT TYPE VII B	CONNECTOR KIT TYPE VII C	CONNECTOR KIT TYPE II	CONNECTOR KIT TYPE III	CABLE SPLICING KIT
						EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	EA.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.			EA.		EA.
178	L9C	176+37	177+63	RAMP RD	RT				1				1									1		96	408						2		
		177+63	178+95	RAMP RD	RT				1				1									1		96	429						2		
179		178+95	179+55	RAMP RD	RT				1				1									1		96	210						2		
		179+55	180+25	RAMP RD	RT											1							70			80							3
		180+25	181+52	RAMP RD	RT	1							1	1			1						127	104		137					2		
		181+52	182+80	RAMP RD	RT	1							1	1			1						128	104		138					2		
		182+80	182+86	RAMP RD	RT			1					1	1			1						6	114		16					2		
		182+86	184+81	RAMP RD	RT											1							195			205							3
		184+81		RAMP RD	RT			1					1	1			1							114							2		
		182+86	182+73 NB I-71	RAMP RD	RT																				249		72						
178		178+82	179+00	NB I-71	RT					1	1	1					1						18	71		28					2		
179		179+00	180+90	NB I-71	RT																		125			190	210						
		180+90	182+73	NB I-71	RT					1	1	1					1						183	99		193					2		
		182+73	182+87	NB I-71	RT											1							14			24							3
		182+87	184+43	NB I-71	RT			1		1					1		1						156	114		166					2		
		184+43		NB I-71	RT			1		1					1		1							114							2		
		182+73	182+67 RAMP RC	NB I-71	RT/LT																				255		10						
178		178+85	179+00	SB I-71	RT			1		1					1		1						15	114		116					2		
179		179+00	179+82 NB I-71	SB I-71	LT																		91			91							
		179+82	179+84	NB I-71	LT														1						36			3					
		179+84	181+73 RAMP RC	NB I-71	LT		1						1				1	1						104	597						2		
		181+73	182+05	RAMP RC	LT															1	1				126		30						3
		182+05	182+67	RAMP RC	LT		1						1				1	1						104	216						2		
		182+67	182+67 11' LT	RAMP RC	LT														1						57		10						3
		182+67 11' LT	20+76 NB READING	RAMP RC	LT											1									72		10						
			TOTAL SHEET 9 OF 16			2	2	5	3	5	2	2	9	4	3	4	11	2	2	1	1	3	1128	1444	2655	1384	342	3			28		15

CALC. BY / DATE / CHKD. BY / DATE

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 1
10 of 16

CALCULATED BY: *[signature]* DATE: 10-21-94
CHECKED BY: *Gerald A. Petric* DATE: 10-21-94

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	LIGHT POLE DESIGN AT15B41.7	LIGHT POLE DESIGN A10B40D	LUMINAIRE, STYLE B, TYPE III, 200 WATT HPS. 713.11, 240 VOLT	LIGHT POLE DESIGN AT10B41.7	GLARE SHIELD	LUMINAIRE, STYLE B, TYPE II, 200 WATT HPS. 713.11, 240 VOLT	LIGHT POLE FOUNDATION, 24" X 8' DEEP	REFURBISH SIGN SERVICE "B" AS PER PLAN	PULL BOX CONCRETE, 18"	LIGHT POLE FOUNDATION 24" X 10' DEEP	GROUND ROD	MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN	MEDIAN LIGHT POLE FOUNDATION, 8' DEEP, AS PER PLAN	MEDIAN PULL BOX	UNDERPASS LUMINAIRE HIGH PRESSURE SODIUM 713.13	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3"	JUNCTION BOX EXTENSION "A"	CONDUIT, 3", 713.04	TRENCH 24" DEEP	POLE AND BRACKET CABLE NO. 10	DISTRIBUTION CABLE NO. 2 AWG, 5000 VOLT	DISTRIBUTION CABLE NO. 4 AWG, 5000 VOLT	REMOVE UNDERPASS LUMINAIRE AND SUPPORTS	CONDUIT, 2", 713.04	1-1/2" DUCT CABLE WITH 3 NO. 4 AWG 5000 VOLT CABLES	CONNECTOR KIT TYPE VII A	CONNECTOR KIT TYPE VII B	CONNECTOR KIT TYPE VII C	EXISTING CONDUIT CLEANED	CONNECTION TO EXISTING CONDUIT	CONNECTOR KIT TYPE II	CONNECTOR KIT TYPE III	CABLE SPLICING KIT
						ITEM 625	ITEM 625	ITEM 625	ITEM 625	ITEM 625	ITEM 625	ITEM 625	ITEM 625	ITEM 625	ITEM 625	ITEM 625	ITEM 625	ITEM 625	ITEM 625	ITEM 625	ITEM 625	SPEC.	ITEM 625	ITEM 625	ITEM 625	ITEM 625	ITEM 625	202	ITEM 625	ITEM 625	ITEM 625	ITEM 625	ITEM 625		SPEC.	ITEM 625	ITEM 625	ITEM 625
						EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	EA.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.	L.F.	L.F.	EA.	EA.	EA.	L.F.	EA.	EA.	EA.	EA.
178	L9A	177+63	177+97 RAMP GA	SB I-71	RT		1				1					1	1								100		198									2		
		177+97	178+97	RAMP GA	RT														1	2							330	2	5			3			1			
		178+97	179+00	RAMP GA	RT														1	2							39	2	5			3			1			
179		179+00	179+96 SB I-71	RAMP GA	RT																						288											
		179+96	180+51	SB I-71	LT		1	1		1						1	1								100		195									2		
		180+51	181+25	SB I-71	LT								1						1								252					3			1			
		181+25	182+45 RAMP GA	SB I-71	LT		1				1					1	1								100		432									2		
		182+45	183+00 SB I-71	RAMP GA	RT														1								162											3
		183+00	184+73	SB I-71	LT		1	1								1		1							100		549									2		
		184+73		SB I-71	LT		1	1								1		1							100											2		
		182+45	182+35	RAMP GA	RT/LT																31			15						56			3	45				
178		176+52	178+88	RAMP GA	LT	1					1	1				1								238	114					248						2		
179		178+88	180+18	RAMP GA	LT																			126						136								
		180+18	182+35	RAMP GA	LT				1		1				1	1								219	104					229						2		
		182+35	19+33 SB READING	RAMP GA	LT				1		1	1				1									104					46		3				2		
178		14+70 10' LT	16+32 SB READING	NB READING	LT				1		1	1				1								193	104					203						2		
179		16+32	19+33	SB READING	RT	1					1	1				1								301	114					311						2		
		19+33	19+55	SB READING	RT									1										22						32								3
		19+55	184+52 RAMP GA	SB READING	RT	1					1	1				1								186	114					196						2		
		184+52	22+64 SB READING	RAMP GA	LT	1					1	1				1								128	114					138						2		
		22+64		SB READING	RT	1					1	1				1									114											2		
		19+33		SB READING	RT/LT																76									86				75				
		19+05	19+33	SB READING	LT									1										28						38								3
		19+33		SB READING	LT									1																								3
	L9	19+39	POWER SERVICE L9	SB READING	LT																													90				
			TOTAL SHEET 10 OF 16			5	5	3	3	1	10	7	1	3	1	13	3	2	4	4	107			1456	1382		2445	4	10	1719		12	3	210	3	26		12

EC-1 C:\88090\88090STH.DWG OCTOBER-20-1994 USER: RGARDNER TIME:15:35

REL 12

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 1
11 of 16

CALCULATED BY: Robert G. Jr. DATE: 10-21-94
CHECKED BY: Gerald A. Petrie DATE: 10-21-94

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	LIGHT POLE DESIGN A10B40	COMBINATION STRAIN POLE TYPE TC-81.10, DESIGN 3, AS PER PLAN	LIGHT POLE DESIGN A8B40D	LIGHT POLE DESIGN A10BB40, AS PER PLAN	BRACKET ARM, 10'	LIGHT POLE DESIGN AT10B36.7	LIGHT POLE DESIGN AT10B41.7	VARIABLE HEIGHT STANDARDS	LUMINAIRE, STYLE B, TYPE III, 200 WATT H.P.S. 713.11, 240 VOLT	LIGHT POLE FOUNDATION, 24" X 8' DEEP	LIGHT POLE FOUNDATION, 24" X 10' DEEP	PULL BOX CONCRETE, 18"	PULL BOX CONCRETE, 24"	GROUND ROD	REFURBISH SIGN SERVICE "A" AS PER PLAN	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3"	CONDUIT, 3", 713.04	TRENCH 24" DEEP	POLE AND BRACKET CABLE NO. 10	DISTRIBUTION CABLE NO. 2 AWG, 5000 VOLT	DISTRIBUTION CABLE NO. 4 AWG, 5000 VOLT	JUNCTION BOX EXTENSION "A"	1-1/2" DUCT CABLE WITH 3 NO. 4 AWG 5000 VOLT CABLES	ELECTRIC SERVICE CONNECTION TO PEDESTAL LIGHT, AS PER PLAN	EXISTING CONDUIT CLEANED	CONNECTOR KIT TYPE VII (A, B, C)	CONNECTOR KIT TYPE (II, III)	CABLE SPLICING KIT
						625	632	ITEM 625																			SPEC	ITEM 625			ITEM 625		
						EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.	L.F.	EA.	L.F.	EA.	EA.	EA.
178	L9B	14+11	14+17	SB READING	RT												1									78			1	26			2
		14+17	13+33 62' RT	SB READING	RT												1			1			84					94	1				3
		13+33 39' RT	13+33 62' RT	SB READING	RT												1									74			1	30			3
		13+29	13+33 62' RT	SB READING	RT						1			1	1				1				4	94				14				2	
		13+33 62' RT	10+94 ELSINORE	SB READING	RT												1					5	5					74	1	70			6
		10+94	11+35	ELSINORE	LT						1			1	1				1				50	94				60				2	
		10+43	10+67	ELSINORE	CL/LT												1									118			1	50			2
		10+64	10+67	ELSINORE	LT		1			1				1		1			1				3	90				13				2	
		10+67	11+32	ELSINORE	LT												1						68					78					3
		11+32	11+35 LT ELSINORE (N)	ELSINORE	LT												1			1						138			1	40			3
		11+35	12+40	ELSINORE (N)	LT												1						105					115					3
		12+40	175+56 RT RAMP RD	ELSINORE (N)	LT						1			1	1				1				157	94				167				2	
		175+56	15+40 RT NB READING	RAMP RD	RT												1			1						162				40			3
		15+40	16+35	NB READING	RT												1									294				50			3
		16+35	17+61	NB READING	RT			1						1										96		426	1					2	
179		17+61	18+92	NB READING	RT	1								1										100		423	1					2	
		18+92	20+76	NB READING	RT	1								1										100		561	1					2	
		20+76	21+08	NB READING	RT																				126		1				3		
		21+08		NB READING	RT	1								1										100								2	
	L9	20+76	182+67 SB I-71	NB READING	RT/LT																				309	309	1			90			
		182+67	182+48 RT GA	SB I-71	RT													1							219	219				60			
		182+48		RAMP GA	RT/LT													1							141	141				40			
		182+48	19+36 RT SB READING	RAMP GA	LT													1							126	126				30			
		19+36		SB READING	RT/LT													1							258	258				85			
		19+36		SB READING	LT													1															
	L9A	182+18	182+64 SB I-71	RAMP RB	LT							1		1	1				1				49	104				59				2	
		182+64	183+88 RAMP RB	SB I-71	RT												1						124					134					3
		183+88	184+38	RAMP RB	LT												1						50					60					3
		184+38	184+61 RF	RAMP RB	LT							1		1	1				1				23	104				33				2	
		184+61	186+26	RAMP RF	LT												1						165					175					3
		186+26		RAMP RF	LT							1		1	1				1					104								2	
		184+61	22+67 NB READING	RAMP RF	LT																							65		55			
		22+67	24+46	NB READING	LT								1	1									179	99				189				2	
		24+46	26+24	NB READING	LT								1	1									178	79				188				2	
		26+24		NB READING	LT				1					2										140								2	
	L9	182+64	182+45 RAMP GA	SB I-71	RT																55					195				55			
			TOTAL SHEET 11 OF 16			3	1	1	1	1	3	3	2	15	6	1	13	5	7	3	55	5	1244	1398	1179	3522	5	1518	6	721	3	28	40

EC-1 C:\88090\88090S11.DWG OCTOBER-20-1994 USER: RGARDNER TIME:15:36

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 1
12 of 16

CALCULATED BY: Ert F. H. Jr. DATE: 10-21-94
CHECKED BY: Gerald A. Petric DATE: 10-21-94

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	ITEM 625 LIGHT POLE DESIGN A10B40D	LIGHT POLE DESIGN AT15B41.7	LIGHT POLE DESIGN A10B40	LIGHT POLE DESIGN A6B40D	LIGHT POLE DESIGN A10B12B40D	VARIABLE HEIGHT STANDARD	LUMINAIRE, STYLE B, TYPE III, 200 WATT H.P.S. 713.11, 240 VOLT	LIGHT POLE FOUNDATION, 24" X 8' DEEP	LUMINAIRE, STYLE B, TYPE II, 200 WATT H.P.S. 713.11, 240 VOLT	PULL BOX CONCRETE, 18"	GROUND ROD	MEDIAN LIGHT POLE FOUNDATION, 8' DEEP, AS PER PLAN	MEDIAN PULL BOX	REFURBISH SIGN SERVICE "A", AS PER PLAN	CONDUIT, 2", 713.04	TRENCH IN PAVED AREA, TYPE A	TRENCH 24" DEEP	POLE AND BRACKET CABLE NO. 10	DISTRIBUTION CABLE NO. 4 AWG, 5000 VOLT	ITEM SPECIAL JUNCTION BOX EXTENSION "A"	ITEM SPECIAL REMOTE PHOTOCELL "B"	ITEM 625 1-1/2" DUCT CABLE WITH 3 NO. 4 AWG 5000 VOLT CABLES	ELECTRIC SERVICE	EXISTING CONDUIT CLEANED	POWER SERVICE "C", AS PER PLAN	ITEM 625 CONNECTOR KIT TYPE VII A	CONNECTOR KIT TYPE VII B	CONNECTOR KIT TYPE VII C	CONNECTOR KIT TYPE II	CONNECTOR KIT TYPE III	CABLE SPLICING KIT	JUNCTION BOX
						EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.		EA.	EA.	EA.	EA.	EA.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.	EA.	L.F.	EA.	L.F.	EA.	EA.			EA.		EA.	EA.
179	L10A	190+33	191+63	RAMP RA	LT			1				1											100	420	1									2			
		191+63	192+09	RAMP RA	LT			1				1											100	168	1									2			
		192+09	193+18	RAMP RA	LT														1					357	3							3					
		193+18	194+77	RAMP RA	LT			1				1											100	504	1									2			
180		194+77	196+55 SB I-71	RAMP RA	LT			1						1						90		90	100	564	1									2			
		196+55	197+78	SB I-71	LT		1					1	1			1						123	114				133							2			
		197+78	198+55	SB I-71	LT										1				1			77					87									3	
		198+55	201+25	SB I-71	LT		1					1	1			1						270	114				280							2			
		201+25	203+64	SB I-71	LT		1					1	1			1						239	114				249							2			
		203+64	205+10	SB I-71	LT		1					1	1			1						146	114				156							2			
		205+10		SB I-71	LT		1					1	1			1							114											2			
		194+77	15+12 EDEN PARK	RAMP RA	LT/DOWN																		140	105		1			70								
179	L10B	186+46	187+84	SB I-71	LT					1		2					1						144	444										2			
		187+84	188+86 RAMP GA	SB I-71	LT										1					8				378					122							3	
		188+86		RAMP GA	RT						1	1											95		1									2			
		187+84	188+16	SB I-71	LT																			150					57								
		188+16	189+67	SB I-71	LT			1				1											100	483	1									2			
		189+67	191+22	SB I-71	LT			1				1											100	495	1									2			
		191+22	192+77	SB I-71	LT			1				1											100	495	1									2			
		192+77	193+00	SB I-71	LT			1				1											100	171	1									2			
180		193+00	194+31	SB I-71	LT																			336													
		194+31	194+74	SB I-71	LT			1				1											100	159	1									2			
		194+74	15+60	SB I-71	LT/DOWN																			105	1				50								1
		15+60	195+87 RT SB I-71	EDEN PARK	LT										1							165					175									3	
		195+87	195+90	SB I-71	RT													1						29							3						
		195+90	197+32	SB I-71	RT				1			1				1	1						92	456										2			
		197+32	199+88	SB I-71	RT	1						1				1	1						100	798										2			
		199+88	202+58	SB I-71	RT	1						1				1	1						100	840										2			
		202+58				1						1				1	1						100											2			
182	L10B	15+60	15+12	EDEN PARK	LT																58						204										
	L10	15+12 50' LT	POWER SERVICE L10	EDEN PARK	LT																									1							
	L10	15+12 50' LT	15+07 52' LT	EDEN PARK	LT															11	5			63													
	SERVICE	15+07 52' LT	31+47 LT SB READING	EDEN PARK	LT/LT										1												183		115							3	
		31+47		SB READING	LT										1													1									
			TOTAL SHEET 12 OF 16			3	5	9	1	1	1	20	5	1	5	9	5	1	2	109	63	1110	2241	7520	14	1	1467	1	414	1	3	3		40		12	1

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 1
13 of 16

CALCULATED BY: [signature] DATE: 10-21-94
CHECKED BY: Gerald A. Petrie DATE: 10-21-94

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	ITEM 625 LIGHT POLE DESIGN A10B40	LIGHT POLE DESIGN A10B40D	LIGHT POLE DESIGN AT15B41.7	LIGHT POLE DESIGN A8B40	VARIABLE HEIGHT STANDARD	LUMINAIRE, STYLE B, TYPE II, 200WATT HPS, 713.11, 240 VOLT	LIGHT POLE FOUNDATION, 24" X 8' DEEP	PULL BOX CONCRETE, 18"	GROUND ROD	MEDIAN LIGHT POLE FOUNDATION, 8' DEEP, AS PER PLAN	MEDIAN PULL BOX	CONDUIT, 2", 713.04	CONDUIT, 3", 713.04	TRENCH 24" DEEP	POLE AND BRACKET CABLE NO. 10	DISTRIBUTION CABLE NO. 4 AWG, 5000 VOLT	ITEM SPEC. JUNCTION BOX EXTENSION "A"	625 1-1/2" DUCT CABLE WITH 3 NO. 4 AWG 5000 VOLT CABLES	REMOTE PHOTOCELL "B"	EXISTING CONDUIT CLEANED	ITEM 625 CONNECTOR KIT TYPE VII A	CONNECTOR KIT TYPE VII B	CONNECTOR KIT TYPE VII C	CONNECTOR KIT TYPE II	CONNECTOR KIT TYPE III	CABLE SPLICING KIT
						EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.	L.F.	EA.	L.F.	EA.	EA.	EA.	EA.	EA.	EA.
179	L11B	185+74	187+45	NB I-71	LT					1	1									95	543	1							2		
		187+45	189+20	NB I-71	LT	1					1									100	555	1							2		
		189+20	191+03	NB I-71	LT	1					1									100	579	1							2		
		191+03	192+95	NB I-71	LT	1					1									100	606	1							2		
		192+95	193+00	NB I-71	LT	1					1									100	45	1							2		
180		193+00	194+44	NB I-71	LT																432	1									
		194+44	194+89	NB I-71	LT																165	1					3				
		194+89	196+95	NB I-71	LT				1		1									96	648	1							2		
		196+95	198+39	NB I-71	LT				1		1									96	462	1			148				2		
		198+39	198+54	NB I-71	LT/LT								1					19	15		75										3
		198+54	199+38	NB I-71	LT											1					282					3					
		199+38	202+08	NB I-71	LT		1				1			1	1					100	840								2		
		202+08		NB I-71	LT		1				1			1	1					100									2		
		194+44	17+02 EDEN PARK	NB I-71	LT/DN																120				50						
182		17+02	195+00 FLORENCE	EDEN PARK	LT																267				170						3
179	L11A	186+75	188+33	NB I-71	RT	1					1									100	504	1							2		
		188+33	190+13	NB I-71	RT	1					1									100	570	1							2		
		190+13	191+96	NB I-71	RT	1					1									100	579	1							2		
		191+96	193+00	NB I-71	RT	1					1									100	342	1							2		
180		193+00	193+92	NB I-71	RT																276										
		193+92	194+45	NB I-71	RT	1					1									100	189	1		1					2		
		194+45	195+90	NB I-71	RT																465	1					3				
		195+90	198+00	NB I-71	RT	1					1									100	660	2							2		
		198+00	199+38	NB I-71	RT	1					1									100	414	1							2		
		199+38	200+75	NB I-71	RT								1						137				147								
		200+75		NB I-71	RT			1			1	1		1						114									2		
180	L11A	194+45	195+02 FLORENCE	NB I-71	RT/DN															140	105				50						
			TOTAL SHEET 13 OF 16			11	2	1	2	1	17	1	2	3	2	1		19	152	1841	9723	18	147	1	418	3	6		34		6

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 1
14 of 16

CALCULATED BY: [signature] DATE: 10-21-94
CHECKED BY: Gerald A. Petric DATE: 10-21-94

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	ITEM 625 LIGHT POLE DESIGN AT10B36.7	ITEM 632 COMBINATION STRAIN POLE TYPE TC-81.10, DESIGN 3, AS PER PLAN	ITEM 632 REUSE OF MESSENGER CABLE, AS PER PLAN	ITEM 625 BRACKET ARM, 15' AS PER PLAN	BRACKET ARM, 15'	LIGHT POLE DESIGN AT15B36.7	LUMINAIRE, STYLE B, TYPE III, 200 WATT H.P.S. 713.11, 240 VOLT	LIGHT POLE FOUNDATION, 24" X 8' DEEP	LIGHT POLE FOUNDATION, 24" X 10' DEEP	PULL BOX CONCRETE, 18"	UNDERPASS LUMINAIRE 150 WATT H.P.S. 240 VOLT AS PER PLAN	GROUND ROD	ELECTRIC SERVICE CONNECTION TO PEDESTAL LIGHT, AS PER PLAN	CONDUIT, 2", 713.04	202 REMOVE UNDERPASS LUMINAIRE AND SUPPORTS	REFURBISH SIGN SERVICE "A", AS PER PLAN	CONDUIT, 2", 713.04, AS PER PLAN	SERVICE TO UNDERPASS LIGHTING REFURBISHED, AS PER PLAN	TRENCH IN PAVED AREA, TYPE "A"	SPEC. REMOTE PHOTOCELL "C"	ITEM 625 TRENCH 24" DEEP	POLE AND BRACKET CABLE NO. 10	DISTRIBUTION CABLE NO. 4 AWG, 5000 VOLT	ELECTRIC SERVICE CONNECTION	REMOTE PHOTOCELL "A"	EXISTING CONDUIT CLEANED	632 SIGNAL CABLE, 5 CONDUCTOR, NO. 14 AWG.	ITEM 625 1-1/2" DUCT CABLE WITH 3 NO. 4 AWG 5000 VOLT CABLES	POWER SERVICE "C", AS PER PLAN	CONNECTOR KIT TYPE VII A	CONNECTOR KIT TYPE VII B	CONNECTOR KIT TYPE VII C	CONNECTOR KIT TYPE II	CONNECTOR KIT TYPE III	CABLE SPLICING KIT	JUNCTUIN BOX
						EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	EA.	EA.	L.F.	EA.	L.F.	EA.	L.F.	L.F.	L.F.	EA.	EA.	L.F.	L.F.	L.F.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.
182	CL10A	9+96	11+79	EDEN PARK	RT										1						1			40		143							193							3	
		11+79	11+83	EDEN PARK	RT/LT	1						1	1				1							4			94				70		84					2			
		10+12	11+83	EDEN PARK	LT	1						1	1				1							40		131	94						181					2			
		11+83	13+10	EDEN PARK	LT										1									6		127							137							3	
		13+10	13+38	EDEN PARK	LT	1						1	1				1							6		28	94						38					2			
		13+38	31+23 SB READING	EDEN PARK	LT										1									6		37							47							3	
		31+23	32+87 NB READING	SB READING	LT										1													249			75									3	
		32+87	14+90 EDEN PARK	NB READING	CL													1						13							70		70							3	
		14+90	14+96	EDEN PARK	LT		1	1		1		1		1			1							5		20	104						30					2	1		
		14+96	33+83 NB READING	EDEN PARK	LT										1									5		100							110							3	
		33+83	35+43	NB READING	RT	1						1	1				1							6		160	94						170					2			
		35+43	35+82	NB READING	RT										1									6		39							49							3	
		35+82		NB READING	RT	1						1	1				1							6			94											2			
		14+96	15+15 52' LT	EDEN PARK	LT																			18		10							38								
		191+63	192+66	RAMP RA	LT											1				1		103	1					339								3					1
		192+66	193+00	RAMP RA	LT											3				3		44	1					162								3					1
		31+35	193+00 RAMP RA	NB READING	LT/UP				1			1															30	75			50					3					
		193+00	193+18	RAMP RA	LT																	18						84								3					1
		193+18	194+77	RAMP RA	LT											1				1		159	1					507		1						3					1
		194+77	15+15 50' LT EDEN PK	RAMP RA	LT/DN																	25						105								3					1
		189+67	191+22	SB I-71	LT											3				3		255	1					795								3					1
		191+22	192+77	SB I-71	LT											3				3		155	1					495								3					1
		192+77	194+74	SB I-71	LT											2				2		197	1					621								3					1
		194+74	15+63 LT EDEN PARK	SB I-71	LT/DN																	30						120								3					1
	CL10A	16+49	16+45	EDEN PARK	RT														6							6						73									
		16+45	16+35	EDEN PARK	RT/LT		1	1		1		1		1			1									6	104				90		101					2			
		195+08	16+35 EDEN PARK	RAMP RB	LT						1	1	1				1									68	104						78					2			
		16+35	15+63	EDEN PARK	LT										1											78							88							3	
		15+63	15+15 52' LT	EDEN PARK	LT										1											54							64							3	
		15+15 52' LT	15+15 50' LT	EDEN PARK	LT										1																									3	
		15+15 50' LT	POWER SERVICE CL10	EDEN PARK	LT																													1							
	CL10	15+15 50' LT	15+07 52' LT	EDEN PARK	LT														16					8				78													
180	–	41+90	42+60	READING	RT										1									70					1				80							3	
	–	42+60		READING	RT										1										1															3	
			TOTAL SHEET 14 OF 16			5	2	2	1	2	1	9	6	2	11	13	8	1	22	13	1	986	6	233	1	1007	812	3630	1	1	355	73	1558	1		30		16	1	36	9

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 1
15 of 16

CALCULATED BY: [illegible] DATE: 10-21-94
CHECKED BY: Gerald A. Petric DATE: 10-21-94

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE		LIGHT POLE DESIGN AT8B41.7	LIGHT POLE DESIGN A4B40				LUMINAIRE, STYLE B, TYPE III, 200 WATT H.P.S. 713.11, 240 VOLT	LIGHT POLE DESIGN AT10B41.7		LIGHT POLE FOUNDATION 24" X 10'		GLARE SHIELD	LUMINAIRE, STYLE B, TYPE II, 200 WATT H.P.S. 713.11, 240 VOLT	LIGHT POLE FOUNDATION, 24" X 8' DEEP	UNDERPASS LUMINAIRE 150 WATT H.P.S. 240 VOLT AS PER PLAN	PULL BOX CONCRETE, 18"	PULL BOX CONCRETE, 24"	GROUND ROD	CONDUIT, 2", 713.04, AS PER PLAN	202 REMOVE UNDERPASS LUMINAIRE AND SUPPORTS	SERVICE TO UNDERPASS LIGHTING "A", AS PER PLAN	REFURBISH SIGN SERVICE "A", AS PER PLAN	CONDUIT, 2", 713.04	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3"	TRENCH IN PAVED AREA, TYPE A		TRENCH 24" DEEP	POLE AND BRACKET CABLE NO. 10	DISTRIBUTION CABLE NO. 4 AWG, 5000 VOLT	EXISTING CONDUIT CLEANED	JUNCTION BOX EXTENSION "A"	ELECTRIC SERVICE	1-1/2" DUCT CABLE WITH 3 NO. 4 AWG 5000 VOLT CABLES	ELECTRIC SERVICE CONNECTION TO PEDESTAL LIGHT, AS PER PLAN	CONNECTOR KIT TYPE VII A	CONNECTOR KIT TYPE VII B	CONNECTOR KIT TYPE VII C	POWER SERVICE "C", AS PER PLAN	CONNECTOR KIT TYPE II	CONNECTOR KIT TYPE III	CABLE SPLICING KIT	JUNCTION BOX
						ITEM 625																															ITEM 625										
							EA.	EA.				EA.	EA.		EA.		EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	EA.	EA.	EA.	L.F.	L.F.	L.F.		L.F.	L.F.	L.F.	L.F.	EA.	EA.	L.F.	EA.		EA.		EA.	EA.		EA.	EA.
179	L11C	187+35	187+50 RAMP RE	RAMP RC	RT																1						1					15						25								3	
		187+50	189+40	RAMP RE	RT							1	1				1		1				1									190	104					200						2			
		189+40	191+35	RAMP RE	RT								1		1			1					1									195	104					205						2			
		191+35		RAMP RE	RT								1		1			1					1									163						173						2			
		190+27	192+16	RAMP RB	RT			1				1																					93	627		1								2			
182		192+16	193+21	RAMP RB	RT			1										1															93	345	105	1								2			
		28+26	29+21	NB READING	LT/RT		1								1			1					1									108	100		145			158						2			
		29+21	193+21 RAMP RB	NB READING	RT		1								1			1					1									197	100		240			245						2			
		193+76	193+21	RAMP RB	RT																1													195	55				1							3	
		193+21	192+98 RAMP RE	RAMP RB	RT/RT																													147	50											3	
		192+98	193+04	RAMP RE	RT																											6						16								3	
		193+04	195+00 FLORENCE	RAMP RE	RT							1	1						1				1						64	10		74	103					182						2			
	L11	195+00		FLORENCE	RT																	1																								6	
		195+02 90' RT	POWER SERVICE L11	FLORENCE	RT																																						1				
182	CL11A	194+11	194+44	NB I-71	LT															1				33	1	1								129								3					1
		194+44	194+89	NB I-71	LT																			45										165								3					1
		194+89		NB I-71	LT															3					3	1																3					1
		194+44	17+05 LT EDEN PARK	NB I-71	LT/DOWN																			25										105													
		17+05	194+95 RT FLORENCE	EDEN PARK	LT																								39	10		53						102								3	
		194+95	194+99	FLORENCE	RT																1																									3	
		194+99	194+45 RT NB I-71	FLORENCE	RT/UP																			25										105													
		194+45	195+90	NB I-71	RT																			145										465								3					1
		195+90		NB I-71	RT															5					5	1																3					
		19+28	194+95 RT FLORENCE	EDEN PARK	LT																1						1			5		152						167								3	
		194+99	POWER SERVICE CL11	FLORENCE	RT																																						1				
	L11	195+02	194+95	FLORENCE	RT																							11				7		63													
	CL11	194+99	194+95	FLORENCE	RT																							8				4		54													
	SERVICE	194+95	18+30	EDEN PARK	LT																													240	49											3	
		18+30		EDEN PARK	LT																1																1										
			TOTAL SHEET 15 OF 16				2	2				3	4		4		1	5	2	9	5	1	6	273	9	3	2	19	103	25		1164	697	2640	644	2	1	1473	1			15	2	16		30	4

EL 12 EC-1 C:\88090\88090S1M.DWG OCTOBER-20-1994 USER: RGARDNER TIME:15:40

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 1
16 of 16

CALCULATED BY: R.K.F. [signature] DATE: 10-21-94
CHECKED BY: Gerald A. Petric DATE: 10-21-94

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	ITEM 625 LIGHT POLE DESIGN AT15B41.7	LIGHT POLE DESIGN A10B40D	LIGHT POLE DESIGN A12B15B40D	VARIABLE HEIGHT STANDARD	GLARE SHIELD	LUMINAIRE, STYLE B, TYPE III, 200 WATT H.P.S. 713.11, 240 VOLT	LIGHT POLE FOUNDATION, 24" X 8' DEEP	PULL BOX CONCRETE, 18"	GROUND ROD	MEDIAN LIGHT POLE FOUNDATION, 8' DEEP, AS PER PLAN	MEDIAN PULL BOX	TRENCH IN PAVED AREA, TYPE A	CONDUIT, 2", 713.04	ITEM 625 CONDUIT, 3", 713.04	TRENCH 24" DEEP	POLE AND BRACKET CABLE NO. 10	CONNECTION TO EXISTING CONDUIT	DISTRIBUTION CABLE NO. 4 AWG, 5000 VOLT	REFURBISH SIGN SERVICE "A" AS PER PLAN	ELECTRIC SERVICE	1-1/2" DUCT CABLE WITH 3 NO. 4 AWG 5000 VOLT CABLES	CONNECTOR KIT TYPE VII A	CONNECTOR KIT TYPE VII B	CONNECTOR KIT TYPE VII C	ITEM 625 EXISTING CONDUIT CLEANED	POWER SERVICE	CONNECTOR KIT TYPE II	CONNECTOR KIT TYPE III	CABLE SPLICING KIT
						EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.	L.F.	EA.	EA.	L.F.	EA.	EA.	EA.	L.F.	EA.	EA.	EA.	EA.
180	L8A	204+48	206+28	NB I-71	LT		1				1			1	1						100		567									2		
		206+28	206+87	NB I-71	LT											1							210					3						
		206+87		NB I-71	LT		1				1			1	1						100											2		
		206+28	206+60 RT SB I-71	NB I-71	LT													18		16			84											
		206+60	208+00	SB I-71	RT		1				1			1	1						100		552									2		
181		208+00	209+28	SB I-71	RT																		384											
		209+28	211+68	SB I-71	RT			1			2			1	1						158		747									2		
		211+68	211+76	SB I-71	RT			1		2	2			1	1						158		54									2		
		211+76	214+31	CL I-71				1			2			1	1						158		795									2		
180	L8A	203+28	205+68	NB I-71	RT	1					1	1		1						240	114					250						2		
		205+68	208+00	NB I-71	RT	1					1	1		1						232	114					242						2		
181		208+00	210+48	NB I-71	RT	1					1	1		1						248	114					258						2		
		210+48	210+98 108' RT	NB I-71	RT	1					1	1		1						78	114					88						2		
		210+98 108' RT	211+76	NB I-71	RT								1							107				1		117								3
		211+76	212+98	NB I-71	RT								1							122						132								3
		212+98		NB I-71	RT	1					1	1		1							114											2		
		211+76	211+76 RT SB I-71	NB I-71	RT/RT																		300							195				
		211+76	211+76 LT SB I-71	SB I-71	RT											1							246							10				
		211+76	211+76 84' LT	SB I-71	LT								1										48							80				
		208+20	210+80	SB I-71	LT				1		1			1						260	83					270						2		
		210+80	211+76 84' LT	SB I-71	LT				1		1			1						128	95					138						2		
		211+76 84' LT	212+52	SB I-71	LT								1							76						86								3
		212+52	213+32	SB I-71	LT								1							80				1		90								3
		213+32		SB I-71	LT				1		1			1							98											2		
		211+76 84' LT	211+85 120' LT	SB I-71	LT														36	36			138											
		211+85 120' LT		SB I-71	LT								1																					3
	L8	211+88 120' LT	POWER SERVICE L8	SB I-71	LT																										1			
	L8	211+88 120' LT	211+76 120' LT	SB I-71	LT												12	18	18				84											
	CL8A	10+10	211+79 120' LT	McGREGOR	LT												6	6				1	114							20				3
		211+79 120' LT	211+82 120' LT	SB I-71	LT								1																					
		211+82 120' LT	POWER SERVICE CL8	SB I-71	LT																										1			
	CL8	211+82 120' LT	211+76 120' LT	SB I-71	LT												6	2					66											
	SERVICE	211+76 120' LT	211+76 162' LT	SB I-71	LT								1										156							10				3
		211+76 162' LT	ELECTRIC SERVICE	SB I-71	LT								1												1									
			TOTAL SHEET 16 OF 16			5	3	3	3	2	17	5	9	14	6	2	24	44	54	1623	1620	1	4545	2	1	1671		3		315	2	28		21

3470 Orange 169-229

CALC. BY DATE CHKD. BY DATE	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	169/401

DEMOLITION LEGEND

Symbol	Description	Symbol	Description
P	EXIST PHOTOCELL TO BE REMOVED	—PE—	EXIST PRIMARY CONDUCTORS
	EXIST PULL BOX TO BE REMOVED U.N.O. *		EXIST CIRCUIT CONDUCTORS TO BE MAINTAINED
	EXIST WALL OR BARRIER J.B. TO REMAIN		EXIST CIRCUIT CONDUCTORS TO BE ABANDONED
	EXIST TRUSS O.H. SIGN TO REMAIN		EXIST BURIED CONDUIT TO REMAIN, MAINTAIN EXISTING CIRCUIT CONDUCTORS
	EXIST O.H. SIGN TO REMAIN		EXIST BURIED CONDUIT TO REMAIN,
	EXIST. 200 W H.P.S. BASE TO BE REMOVED U.N.O.		EXIST CIRCUIT CONDUCTORS IN EXISTING STRUCTURE CONDUIT TO BE REMOVED
	EXIST. 200 W H.P.S. BASE TO BE REMOVED U.N.O.		EXIST CIRCUIT CONDUCTORS IN EXISTING BURIED CONDUIT TO BE REMOVED
	EXIST 200 W H.P.S., BRACKET AND LUMINAIRE ONLY (WALL MOUNTED) TO BE REMOVED U.N.O.	▲	EXIST CONTROL CENTER TO BE REMOVED
	EXIST 200 W H.P.S., STRUCTURE, BARRIER OR WALL MTD. J.B. TO BE REMOVED. ADJACENT RECESSED J.B. TO REMAIN	△	EXIST CONTROL CENTER TO REMAIN
	EXIST LUMINAIRE AND GLARE SHIELD TO BE REMOVED	T	EXIST TRANSFORMER TO REMAIN
⊕	EXIST POST TOP MOUNTED LUMINAIRE, TYPE V DISTRIBUTION	J	JUNCTION BOX, SURFACE MOUNTED
◎	EXIST SURFACE MOUNTED PENDANT TYPE UNDERPASS LUMINAIRE TO REMAIN. TYPE V DISTRIBUTION		EXIST UNDERPASS LUMINAIRE TO REMAIN
	EXIST 400 W MERCURY VAPOR LUMINAIRE ON UTILITY POLE OWNED BY C.G. & E.		EXIST SIGN TO REMAIN, NO POWER REQUIREMENTS
		R	SUBSCRIPT "R" INDICATES DEVICE TO REMAIN
			EXIST (POWER SERVICE FOR SIGN) TO BE REMOVED

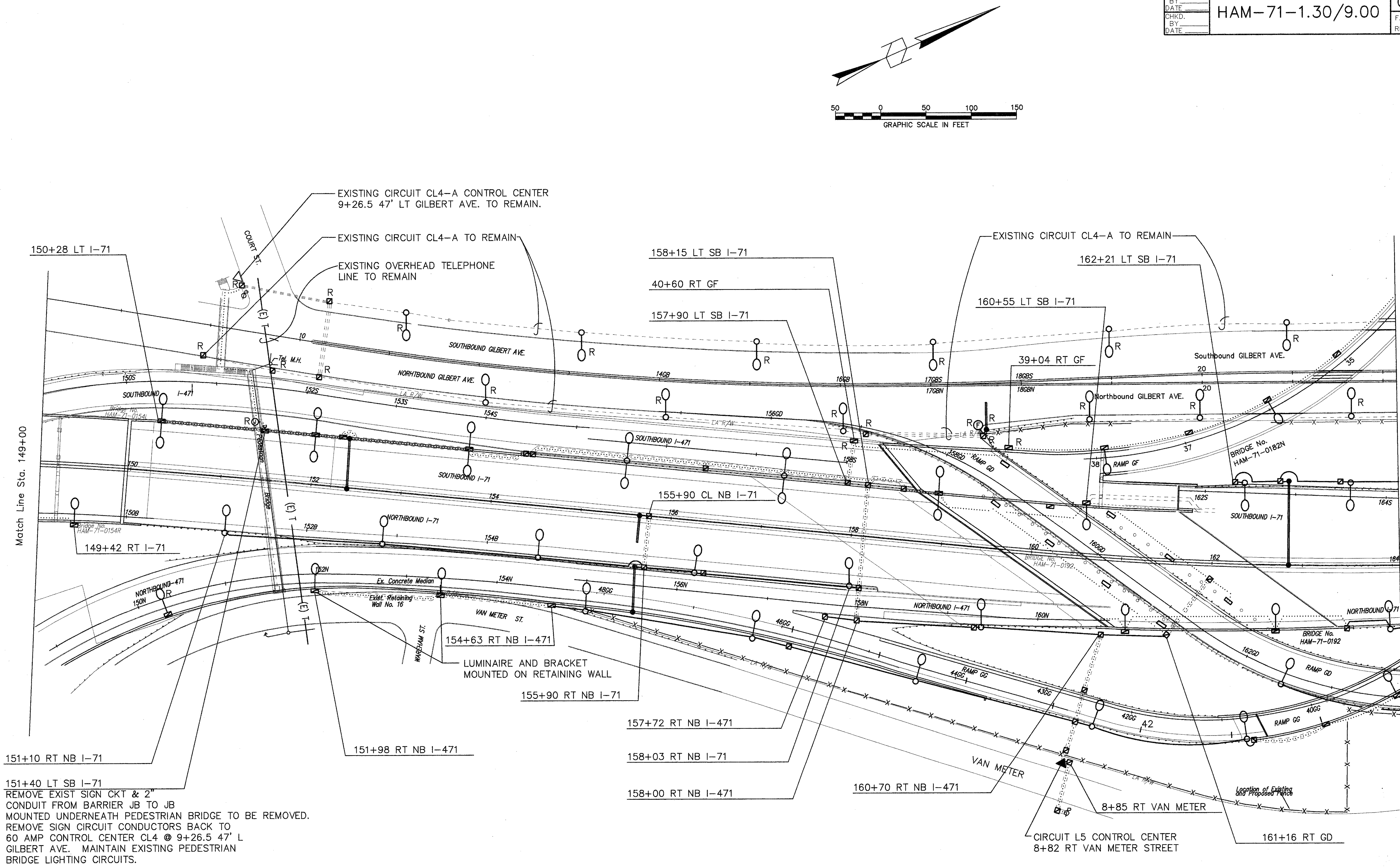
* U.N.O. DENOTES UNLESS NOTED OTHERWISE

DEMOLITION

STA. 134+00 TO STA. 149+00 N.B.

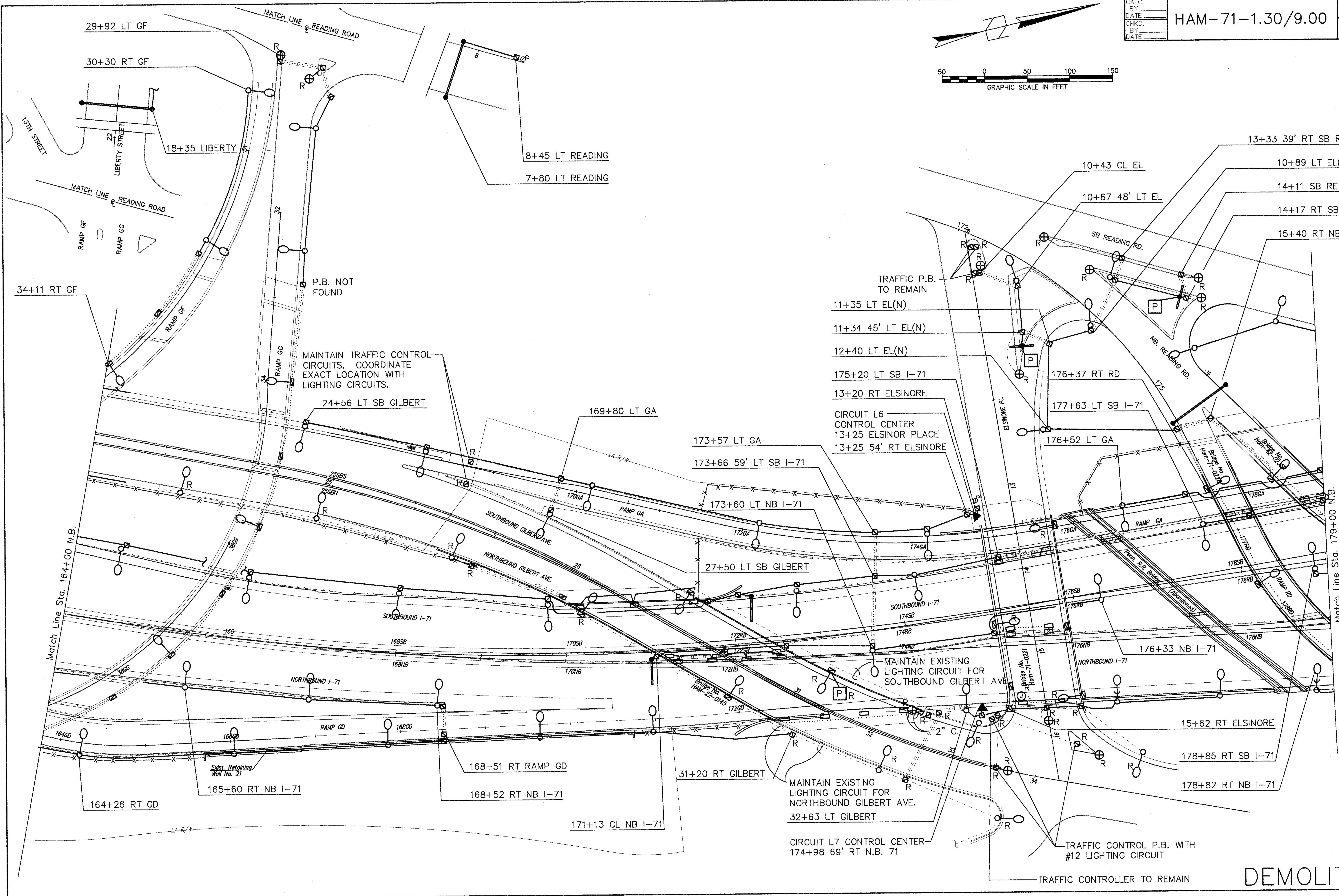
REL 12 EC-1 C:\88090\E134-149.DWG OCTOBER-20-1994 USER: MBAKER TIME:09:31

CALC. BY DATE CHKD. BY DATE | HAM-71-1.30/9.00 | OHIO F.H.W.A. REGION 5 | 170/401



DEMOLITION

CALC. BY DATE / CHKD. BY DATE	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	171/401



DEMOLITION

STA. 164+00 TO STA. 179+00 N.B.

REL 12 EC-1 C:\88090\E164-179.DWG OCTOBER-20-1994 USER: MBAKER TIME:10:14

CALC. BY DATE CHKD. BY DATE	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	172/401

CODED NOTE

1. TWO PARALLEL 3" RIGID METAL CONDUITS. REMOVE CONDUCTORS IN NORTHERN CONDUIT ONLY. SOUTHERN CONDUIT TO BE ABANDONED.

DEMOLITION

STA. 179+00 TO STA. 193+00 N.B.

GENERAL NOTE

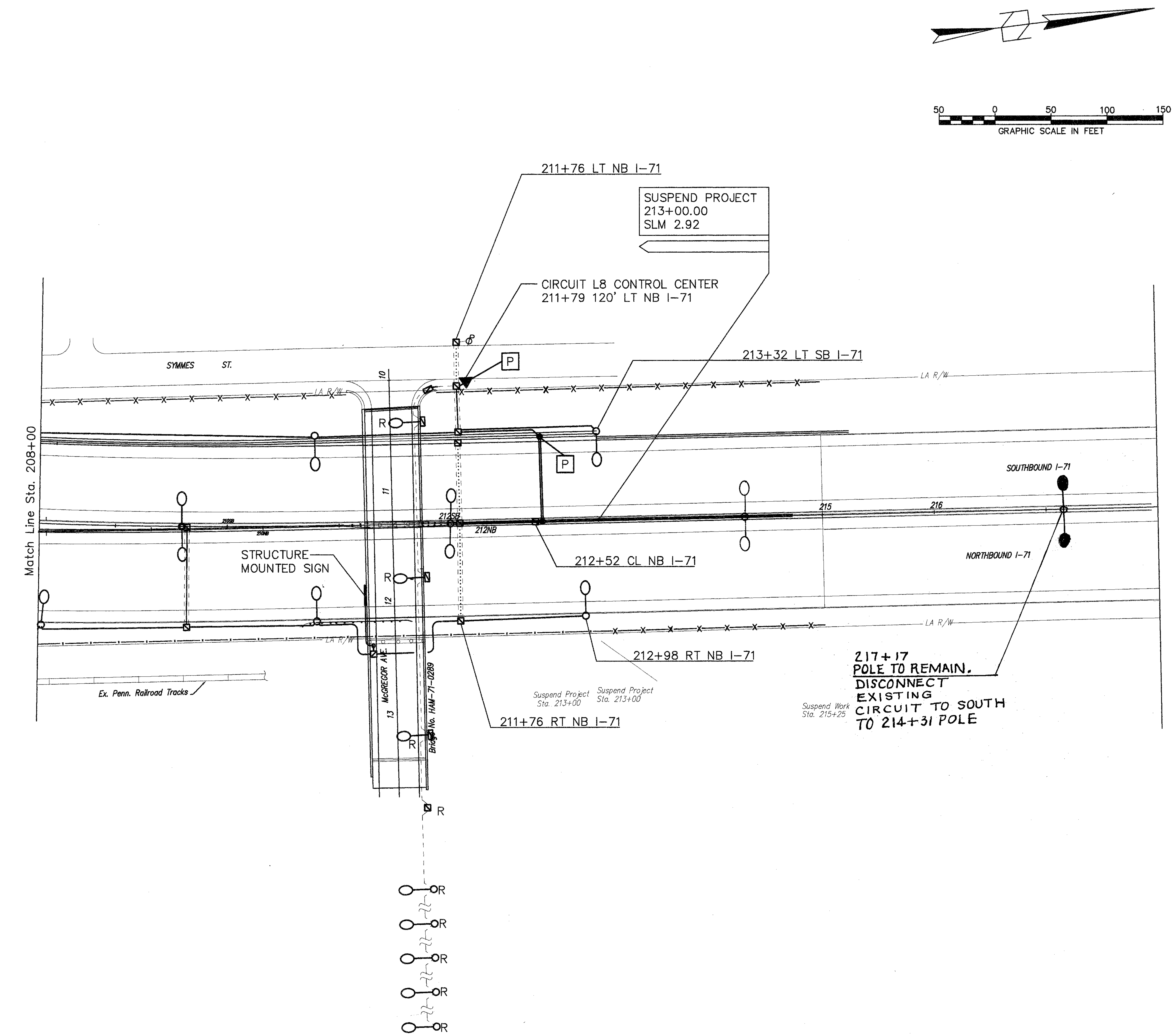
1. REFER TO GENERAL NOTES SHEET FOR "VERIFICATION OF EXISTING CONDITIONS".

CODED NOTE

1. EXISTING POWER SERVICE FOR SIGN TO BE REMOVED.

DEMOLITION

STA. 193+00 TO STA. 208+00 N.B.



DEMOLITION

STA. 208+00 TO STA. 218+00 N.B.

CALC. BY ___ DATE ___ CHKD. BY ___ DATE ___	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	175/401

CODED NOTES:

1. EXISTING 2" GALV. CONDUIT ATTACHED BELOW BRIDGE DECK.
2. PROPOSED 2" GALV. CONDUIT ATTACHED TO PIER CAP BELOW BRIDGE DECK.
3. FOR CONTINUATION OF CIRCUIT TO CONTROL CENTER BELOW, SEE SHEET 176/401 AND DETAIL SHEET 220/401.

FOR LOCATIONS OF CONTROL CENTERS CL1, L2, CL3 AND UNDERPASS LIGHTING, SEE SHEET 176/401

PROPOSED LEGEND

- PROPOSED PHOTOCELL
- PROPOSED PULL BOX
- PROPOSED BARRIER JUNCTION BOX
- EXIST WALL OR BARRIER J.B. TO REMAIN
- EXIST TRUSS O.H. SIGN TO REMAIN
- EXIST O.H. SIGN TO REMAIN
- REERECTED 200 W H.P.S. LUMINAIRE
- REERECTED 2-200 W H.P.S. LUMINAIRES
- REERECTED 200 W H.P.S. LUMINAIRE STRUCTURE, BARRIER OR WALL MTD. ADJACENT TO EXISTING J.B.
- REERECTED LUMINAIRE WITH GLARE SHIELD
- REFURBISHED 150 W H.P.S. UNDERPASS LUMINAIRE
- EXISTING POST TOP MOUNTED LUMINAIRE, TYPE V DISTRIBUTION
- PROPOSED 2-310 W H.P.S. LUMINAIRES
- PROPOSED 200 W H.P.S. LUMINAIRE
- REERECTED 200 W H.P.S. LUMINAIRE, WALL MTD, BRACKET ONLY
- CONNECTION TO EXISTING AT THIS LOCATION
- EXIST 400 WATT MECURY VAPOR LUMINAIRE ON UTILITY POLE OWNED BY C.G. & E.
- C.G. & E. UTILITY POLE
- PROPOSED LIGHT TOWER, 6-400 W H.P.S., TYPE V DISTRIBUTION. 100' NOMINAL M.H.
- PROPOSED LIGHT TOWER, 4-400 W H.P.S., TYPE III DISTRIBUTION. 100' NOMINAL M.H. ARROWS INDICATE ORIENTATION
- REFURBISHED SURFACE MOUNTED PENDANT TYPE UNDERPASS LUMINAIRE. TYPE V DISTRIBUTION.
- PE EXISTING PRIMARY CONDUCTORS TO REMAIN
- PROPOSED CIRCUIT CONDUCTORS. HASH MARKS INDICATE QTY OF CONDUCTORS. NUMBER DENOTES WIRE SIZE IF OTHER THAN #4 AWG.
- EXIST CIRCUIT CONDUCTORS TO BE MAINTAINED
- PROPOSED CIRCUIT CONDUCTORS IN NEW CONDUIT
- PROPOSED CIRCUIT CONDUCTORS IN EXISTING BURIED CONDUIT
- EXIST BURIED CONDUIT TO REMAIN, MAINTAIN EXISTING CIRCUIT CONDUCTORS
- ABANDONED BURIED CONDUIT
- PROPOSED CONTROL CENTER
- EXIST CONTROL CENTER TO REMAIN
- EXIST TRANSFORMER TO REMAIN
- JUNCTION BOX, SURFACE MOUNTED
- R SUBSCRIPT "R" INDICATES EXISTING TO REMAIN

CODED NOTES

1. SEE DETAIL, SHEET 220/401.
2. EXISTING 2" CONDUIT UP TO EXISTING JUNCTION BOX.

UNDERPASS LIGHTING

STA. 134+00 TO STA. 149+00 N.B.

STA. 149+00 TO STA. 164+00 N.B.

* A 10' BRACKET ARM LENGTH AND 35' MOUNTING HEIGHT IS USED TO MATCH EXISITING LIGHT POLES.

CODED NOTES:

1. SEE INSERT "A".

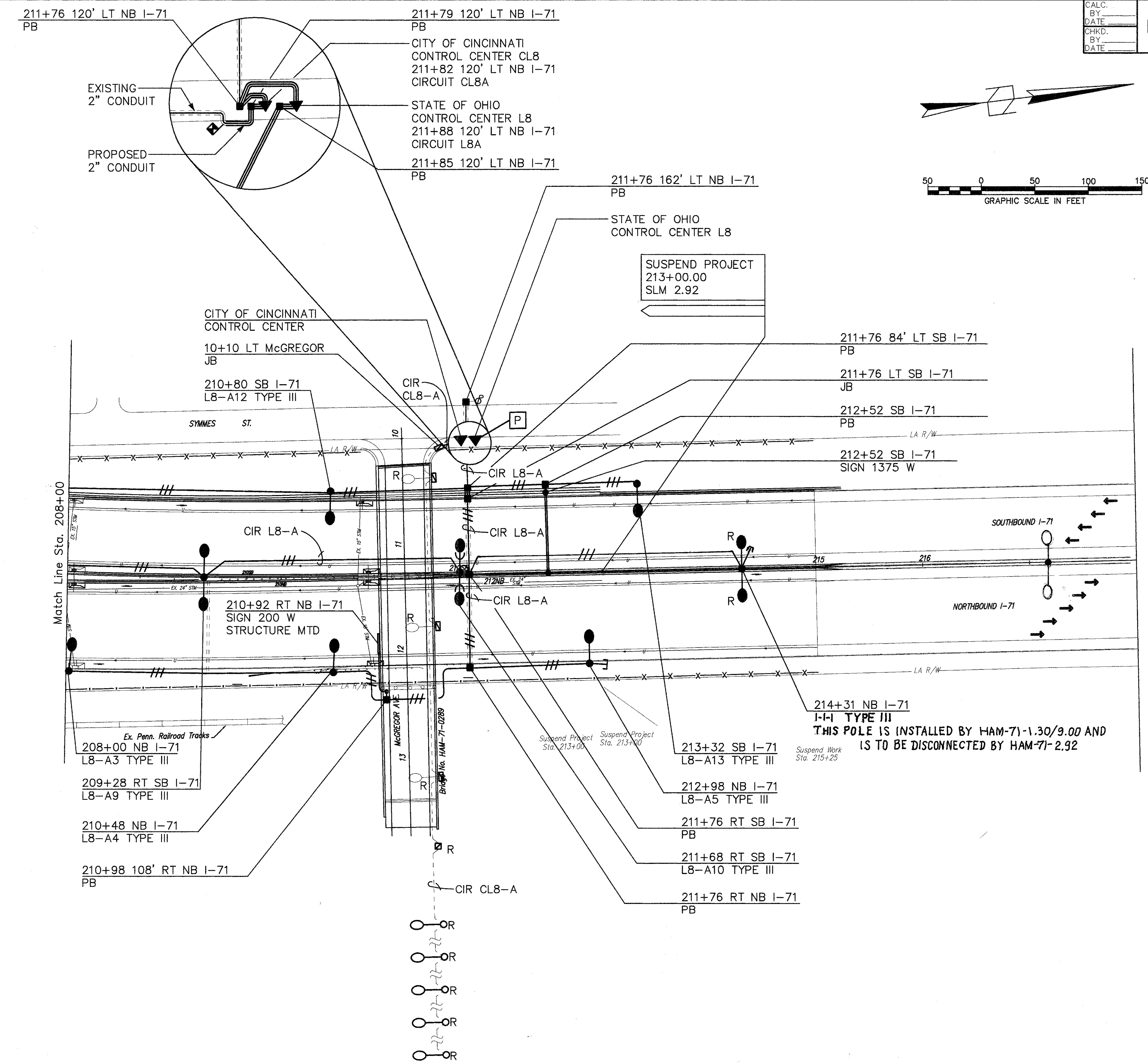
STA. 179+00 TO STA. 193+00 N.B.

CALC. BY / DATE	CHKD. BY / DATE	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	180/401

CODED NOTE

1. EXTEND 2" GALV. CONDUIT FROM EXISTING CONDUIT INTO LIGHT POLE FOUNDATION.
2. FOR CONTINUATION OF CIRCUIT TO CONTROL CENTER BELOW, SEE SHEET 182/401.

FOR LOCATIONS OF CONTROL CENTERS L10, CL10, L11, CL11 AND UNDERPASS LIGHTING, SEE SHEET 182/401.

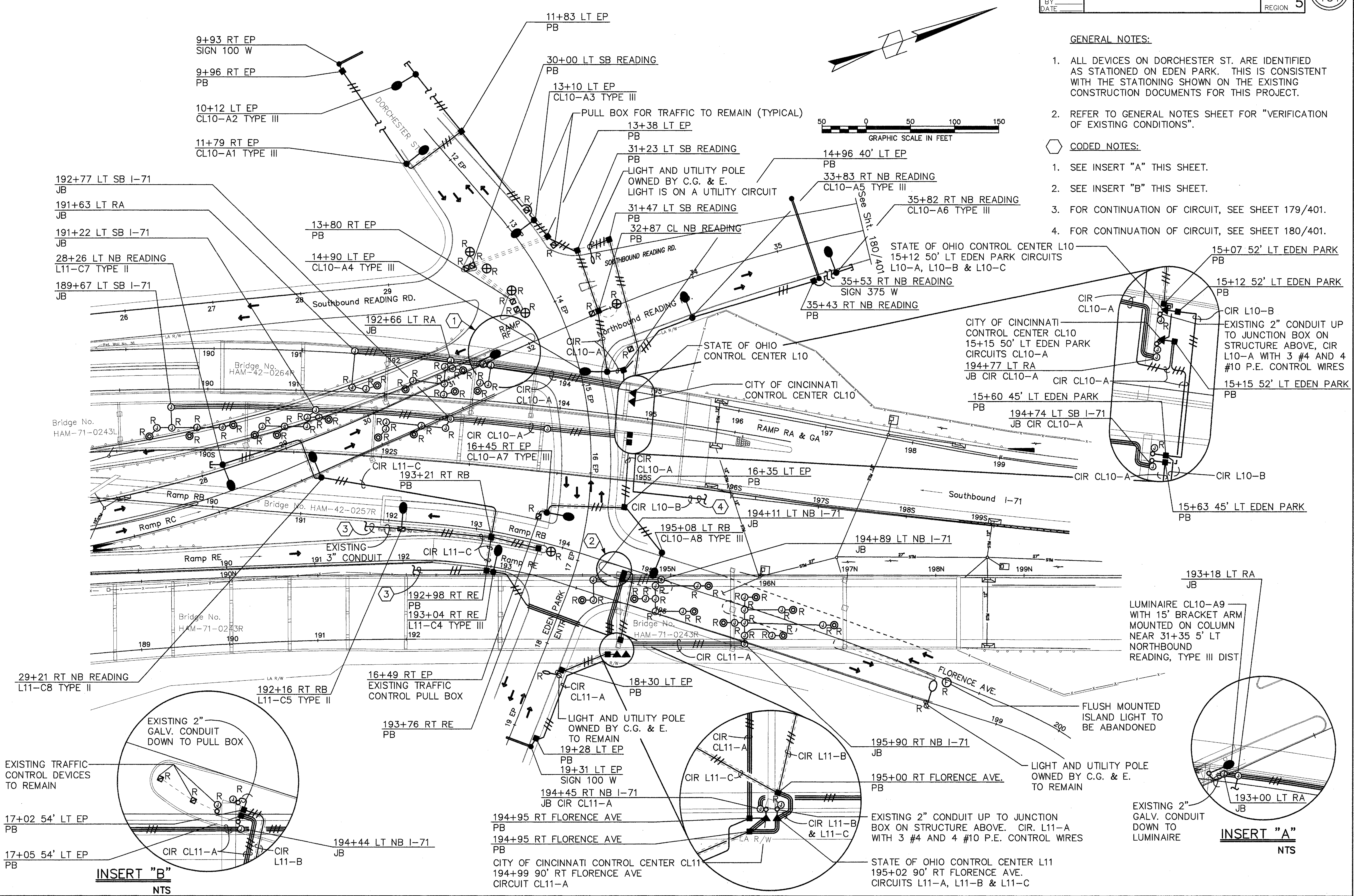

211+76 120' LT NB I-71
PB
EXISTING 2" CONDUIT
PROPOSED 2" CONDUIT
211+79 120' LT NB I-71
PB
CITY OF CINCINNATI CONTROL CENTER CL8
211+82 120' LT NB I-71
CIRCUIT CL8A
STATE OF OHIO CONTROL CENTER L8
211+88 120' LT NB I-71
CIRCUIT L8A
211+85 120' LT NB I-71
PB
211+76 162' LT NB I-71
PB
STATE OF OHIO CONTROL CENTER L8
SUSPEND PROJECT
213+00.00
SLM 2.92
GRAPHIC SCALE IN FEET
50 0 50 100 150
CITY OF CINCINNATI CONTROL CENTER
10+10 LT McGREGOR
JB
210+80 SB I-71
L8-A12 TYPE III
CIR CL8-A
SYMMES ST.
211+76 84' LT SB I-71
PB
211+76 LT SB I-71
JB
212+52 SB I-71
PB
212+52 SB I-71
SIGN 1375 W
CIR L8-A
CIR L8-A
CIR L8-A
CIR L8-A
Match Line Sta. 208+00
SOUTHBOUND I-71
NORTHBOUND I-71
210+92 RT NB I-71
SIGN 200 W
STRUCTURE MTD
McGREGOR AVE
Bridge No. HAM-71-0289
Ex. Penn. Railroad Tracks
208+00 NB I-71
L8-A3 TYPE III
209+28 RT SB I-71
L8-A9 TYPE III
210+48 NB I-71
L8-A4 TYPE III
210+98 108' RT NB I-71
PB
Suspend Project Sta. 213+00
Suspend Project Sta. 213+00
Suspend Work Sta. 215+25
214+31 NB I-71
I-I-I TYPE III
THIS POLE IS INSTALLED BY HAM-71-1.30/9.00 AND IS TO BE DISCONNECTED BY HAM-71-2.92
213+32 SB I-71
L8-A13 TYPE III
212+98 NB I-71
L8-A5 TYPE III
211+76 RT SB I-71
PB
211+68 RT SB I-71
L8-A10 TYPE III
211+76 RT NB I-71
PB
CIR CL8-A

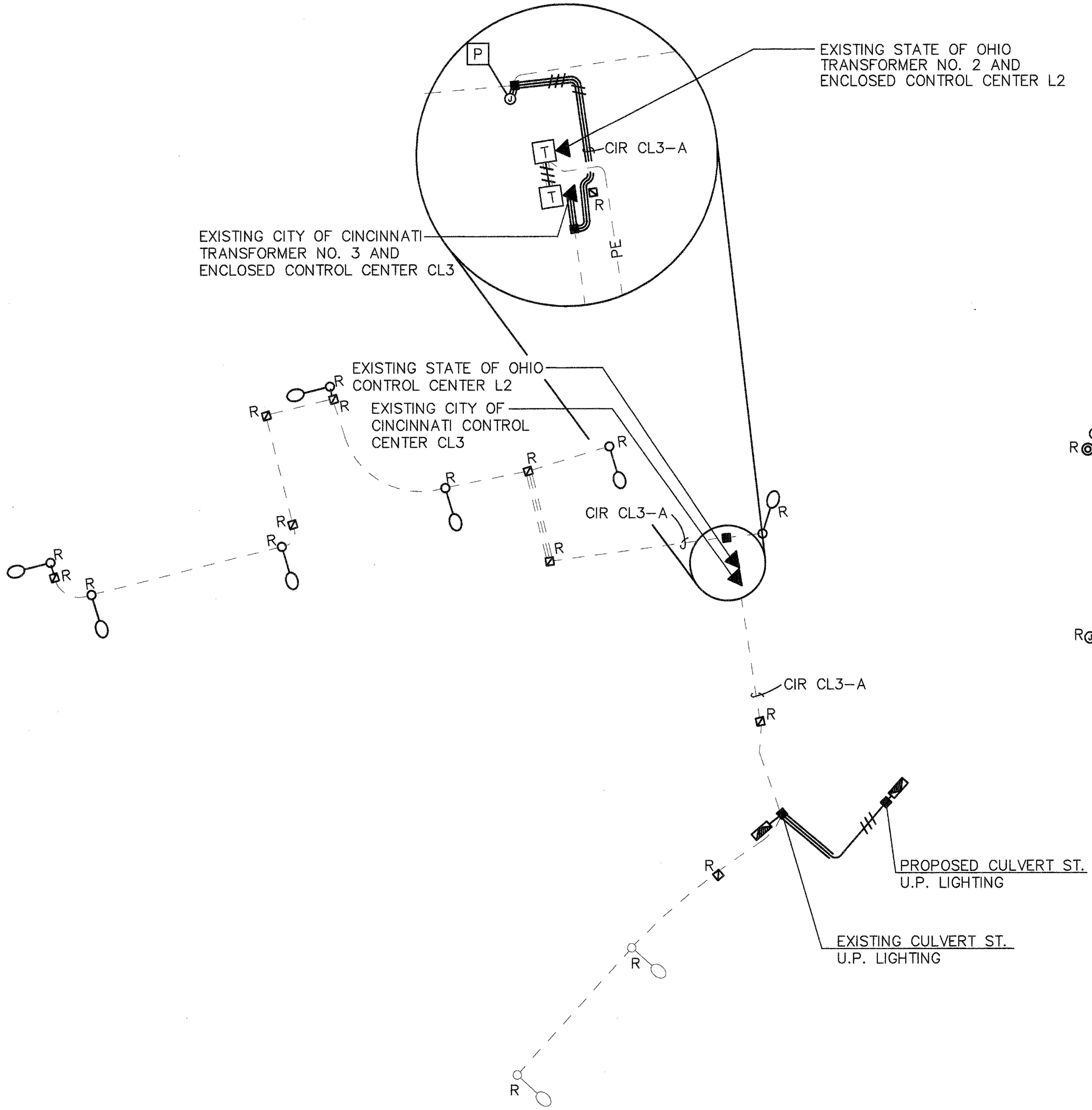
GENERAL NOTES:

1. ALL DEVICES ON DORCHESTER ST. ARE IDENTIFIED AS STATIONED ON EDEN PARK. THIS IS CONSISTENT WITH THE STATIONING SHOWN ON THE EXISTING CONSTRUCTION DOCUMENTS FOR THIS PROJECT.
2. REFER TO GENERAL NOTES SHEET FOR "VERIFICATION OF EXISTING CONDITIONS".

CODED NOTES:

1. SEE INSERT "A" THIS SHEET.
2. SEE INSERT "B" THIS SHEET.
3. FOR CONTINUATION OF CIRCUIT, SEE SHEET 179/401.
4. FOR CONTINUATION OF CIRCUIT, SEE SHEET 180/401.

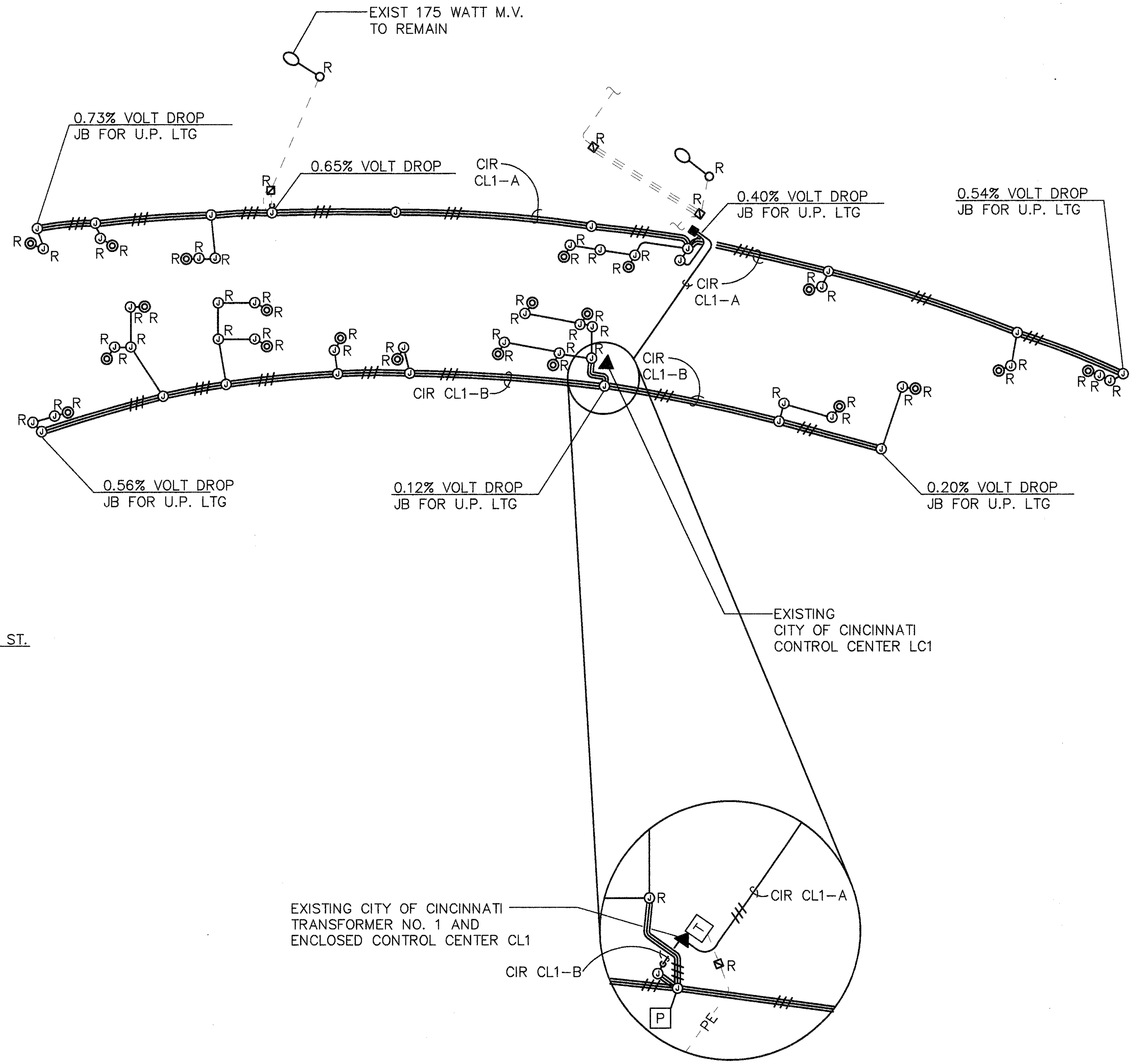




A VOLTAGE DROP CALCULATION FOR CIRCUIT CL3-A WAS NOT DONE DUE TO THE SIGNIFICANT REMOVAL OF EXISTING LIGHTING LOAD.

CONTROL CENTER CL3

CIRCUIT CL3-A **NTS**



CONTROL CENTER CL1

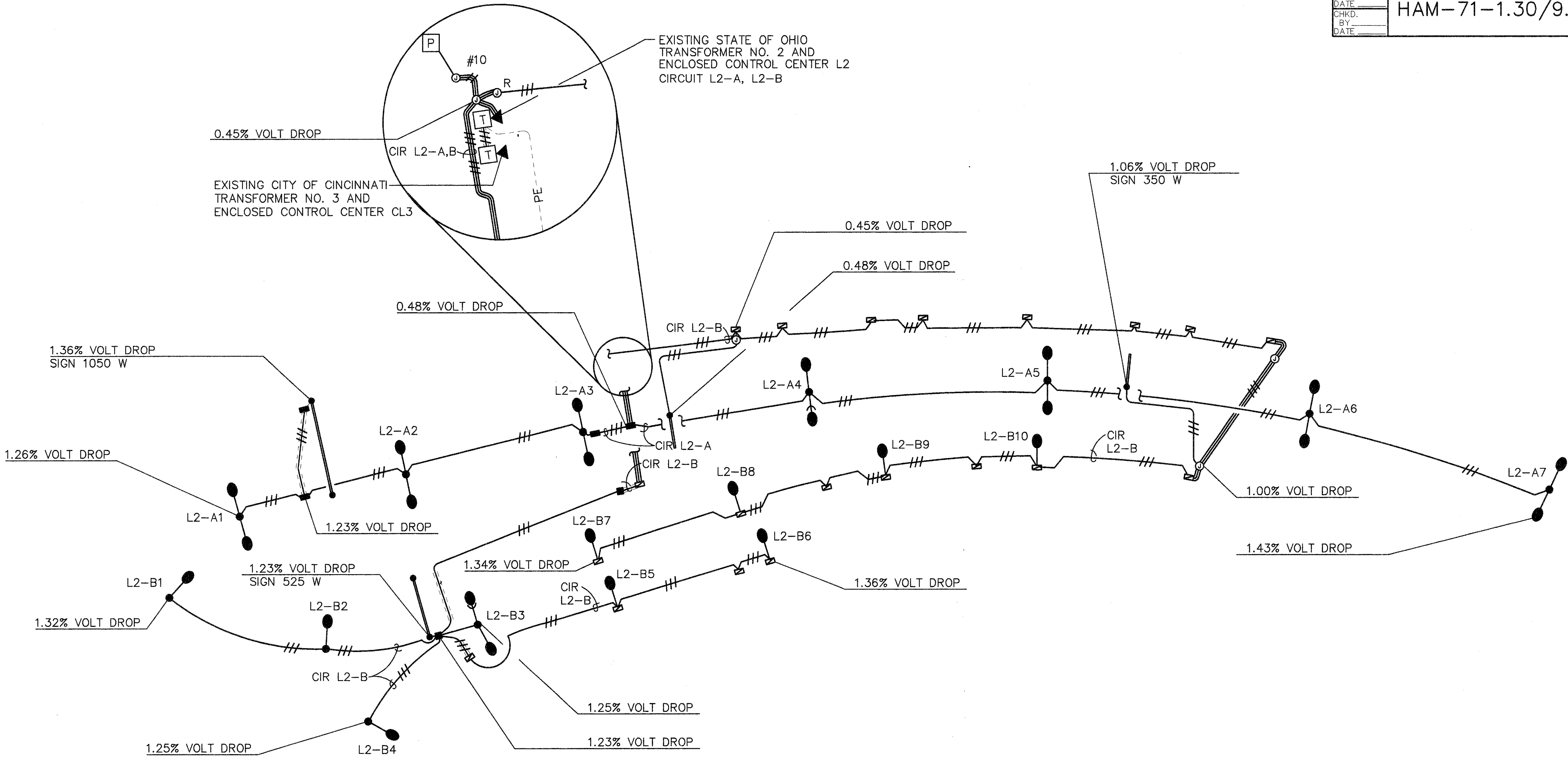
CIRCUIT CL1-A, CL1-B **NTS**

CALC. BY ___ DATE ___
CHKD. BY ___ DATE ___

HAM–71–1.30/9.00

OHIO F.H.W.A. REGION 5

184/401



CONTROL CENTER L2

CIRCUIT L2–A, L2–B NTS

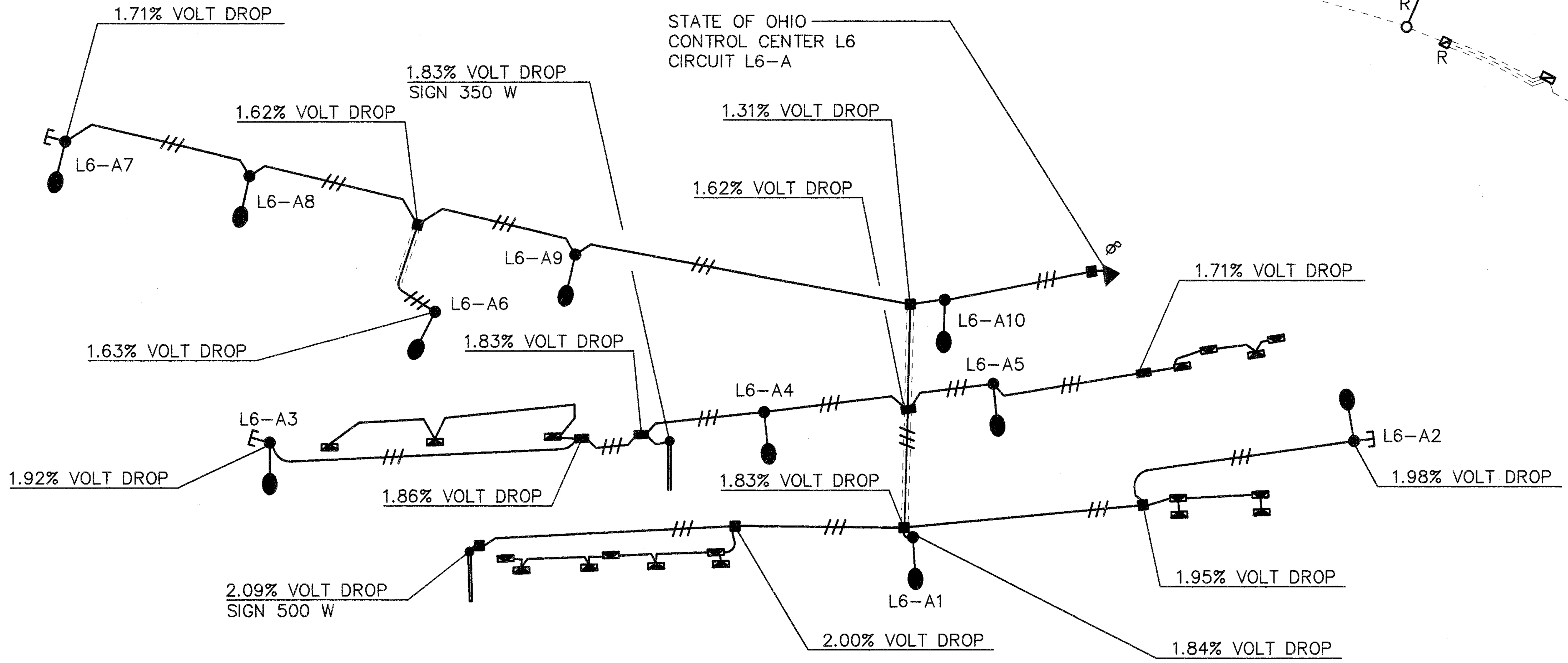
CALC. BY DATE CHKD. BY DATE	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	185/401

CONTROL CENTER L5

CIRCUIT L5-A, L5-B, L5-C NTS

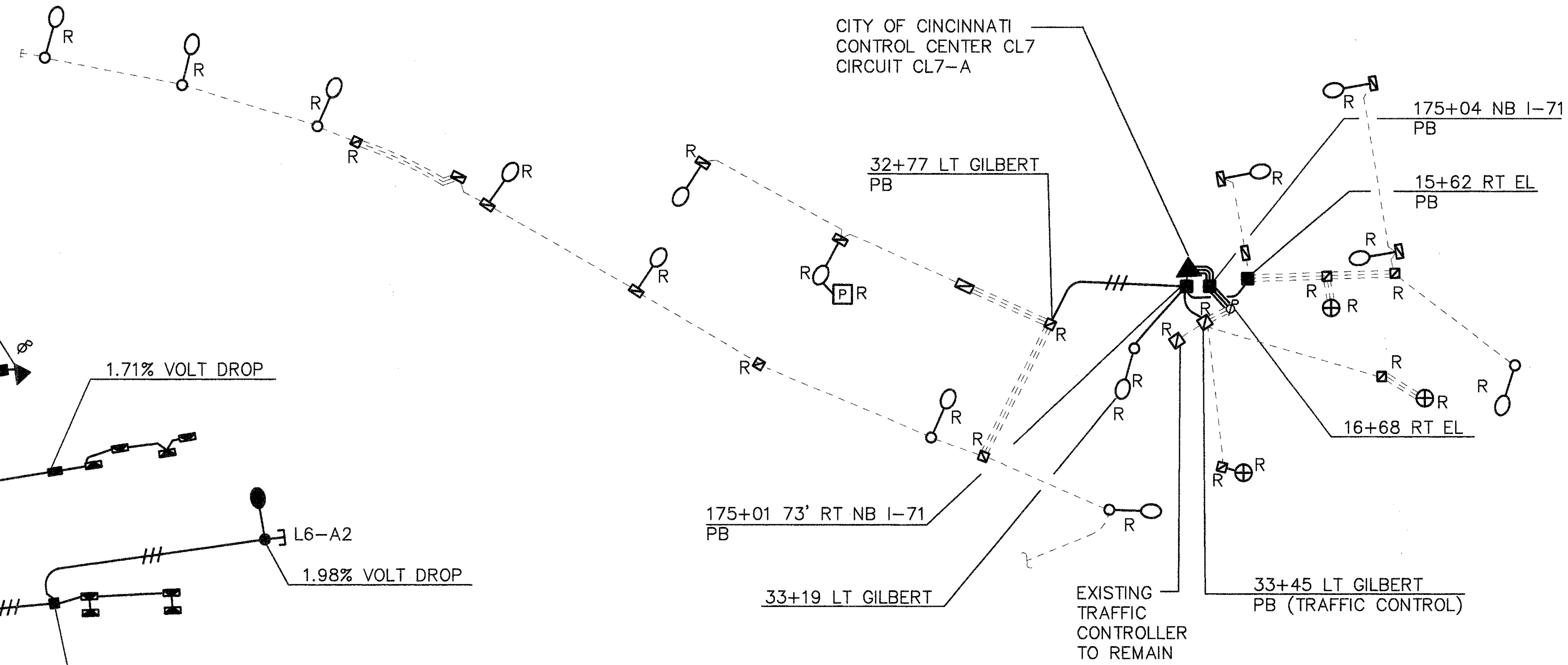
CIRCUIT SCHEMATICS

CALC. BY ___ DATE ___ CHKD. BY ___ DATE ___	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	186/401



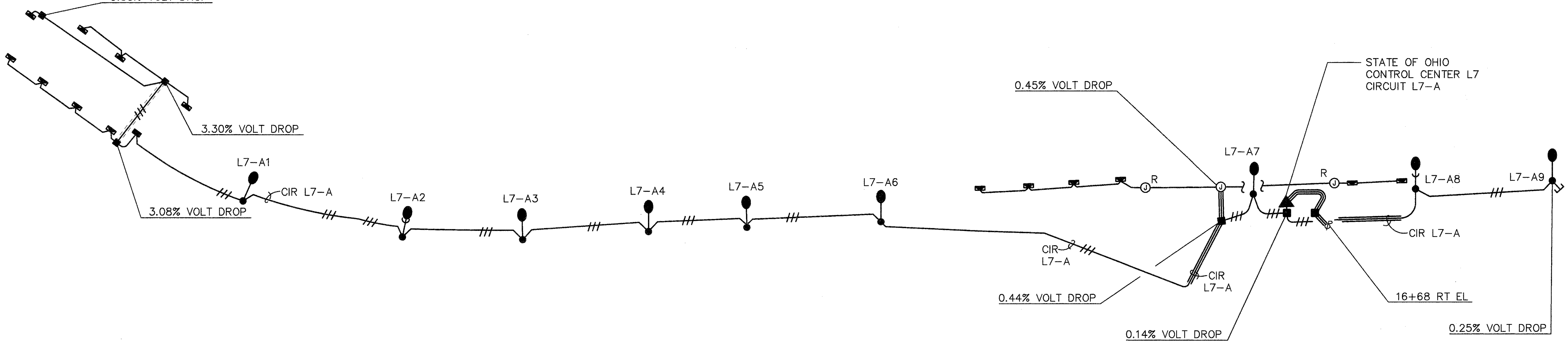
CONTROL CENTER L6

CIRCUIT L6-A NTS



CONTROL CENTER CL7

CIRCUIT CL7-A NTS

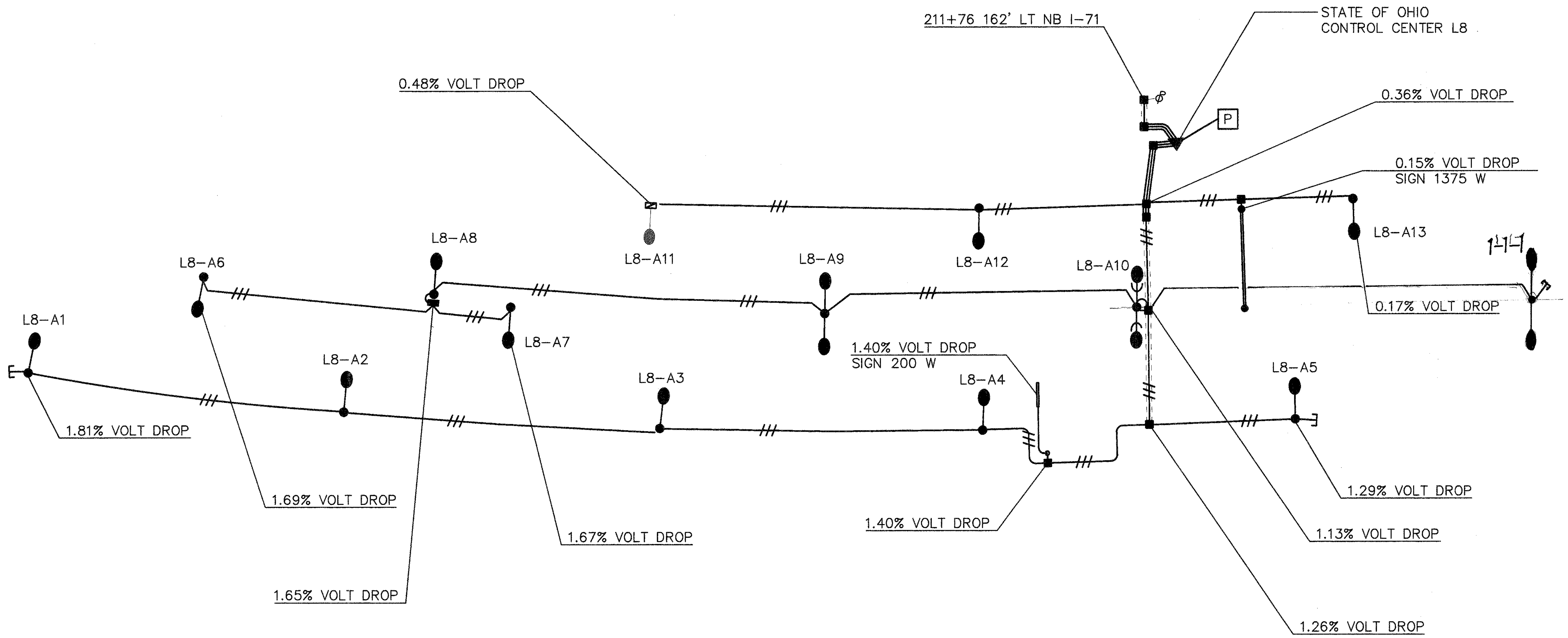


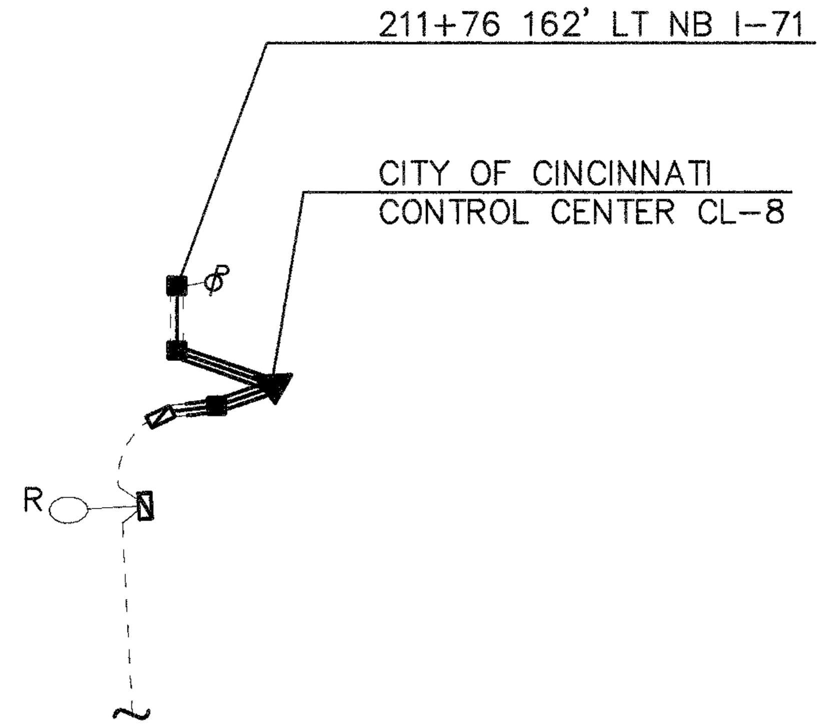
CONTROL CENTER L7

CIRCUIT L7-A NTS

CIRCUIT SCHEMATICS

CALC. BY ___ DATE ___ CHKD. BY ___ DATE ___	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	187/401





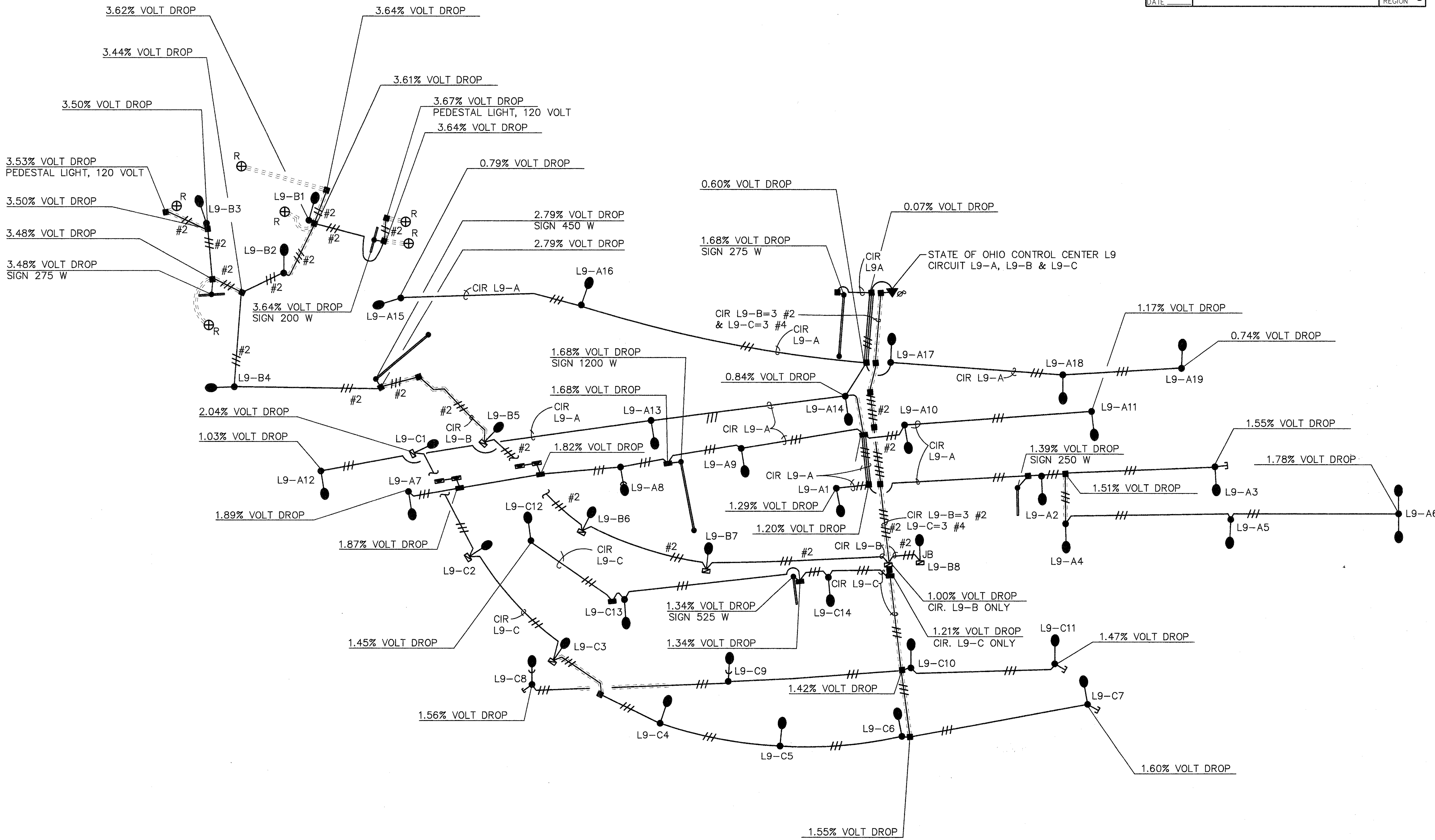
A VOLTAGE DROP CALCULATION FOR CIRCUIT CL8
WAS NOT DONE DUE TO NO LOAD MODIFICATIONS.

CONTROL CENTER CL8
CIRCUIT CL8-A NTS

CONTROL CENTER L8
CIRCUIT L8-A NTS

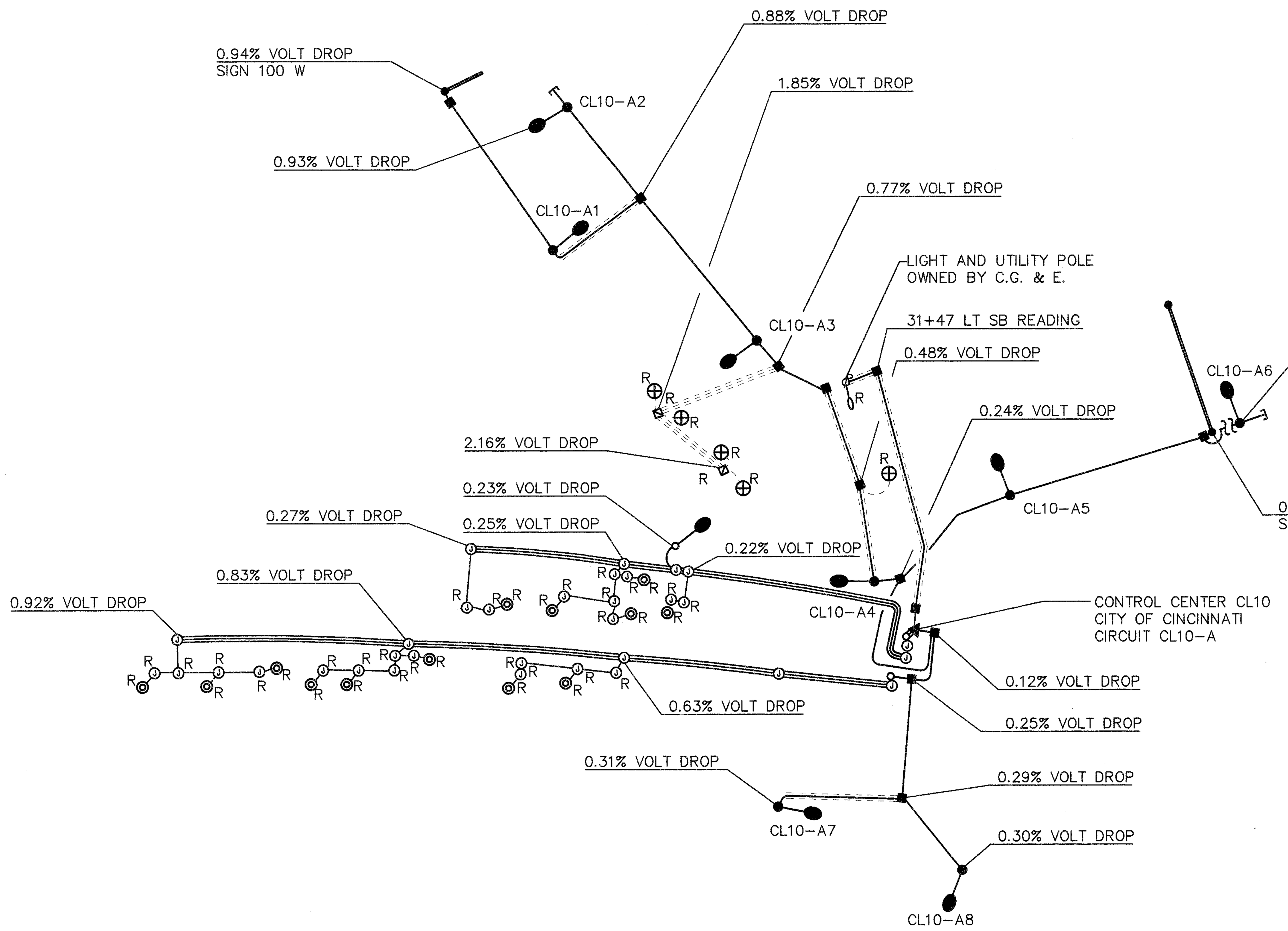
CIRCUIT SCHEMATICS

CALC. BY ___ DATE ___ CHKD. BY ___ DATE ___	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	188 / 401

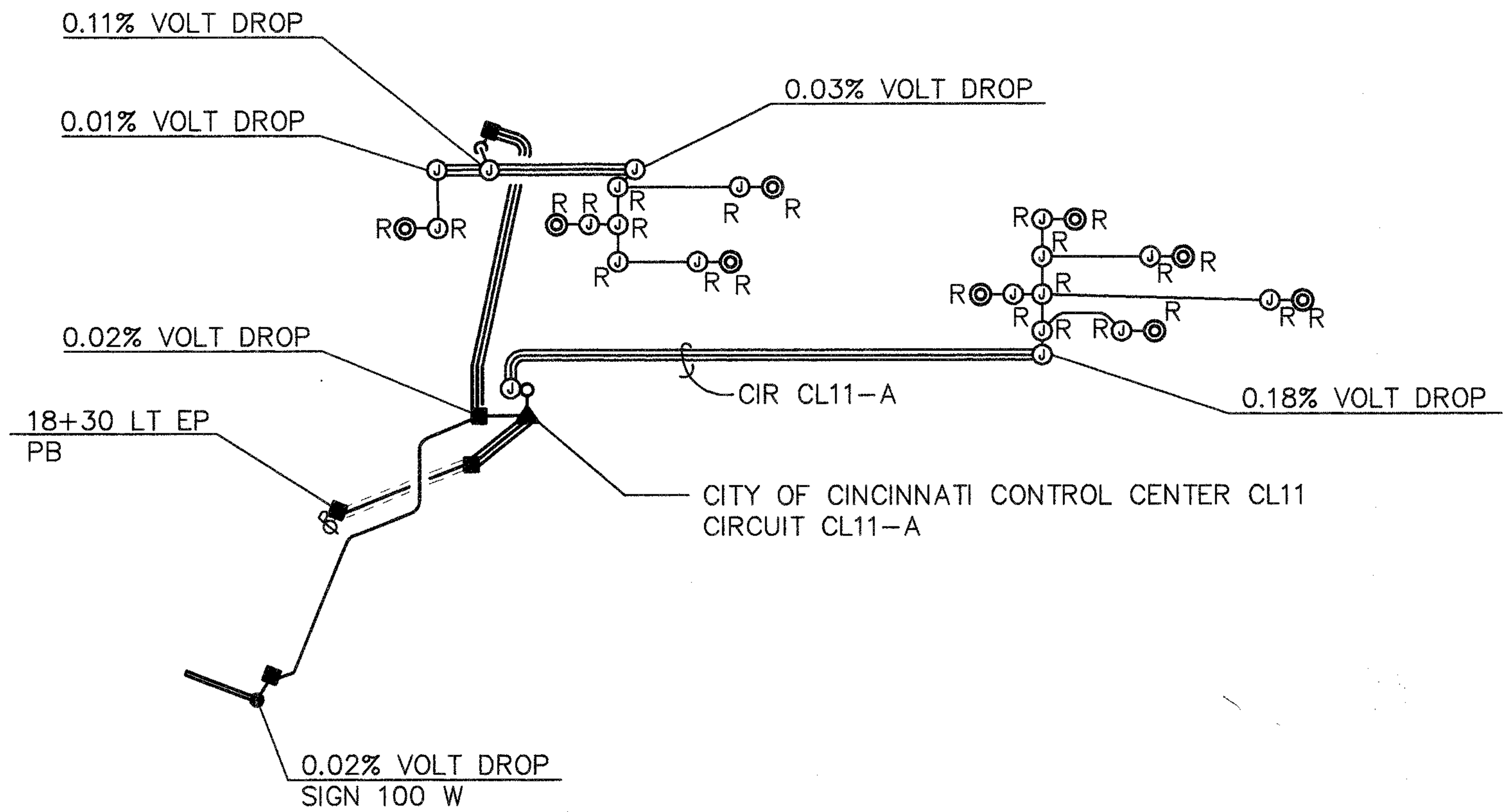


CONTROL CENTER L9

CIRCUIT L9-A, L9-B, L9-C NTS



CONTROL CENTER CL10
CIRCUIT CL10-A NTS



CONTROL CENTER CL11
CIRCUIT CL11-A, CL11-B NTS

CIRCUIT SCHEMATICS

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 2
1 of 5

CALCULATED BY: [signature] DATE: 10-21-94
CHECKED BY: Gerald A. Petric DATE: 10-21-94

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	ITEM 202 LIGHT POLE REMOVED	ITEM 202 LIGHT POLE FOUNDATION REMOVED	ITEM 202 LUMINAIRE REMOVED	ITEM 202	ITEM 202 PULL BOX REMOVED	ITEM SPECIAL DISCONNECT EXISTING CIRCUIT	ITEM SPECIAL WIRE TERMINATION AT PILASTER	ITEM SPECIAL	ITEM 202	ITEM 202 POWER SERVICE REMOVED	ITEM 202	ITEM 202
						EA.	EA.	EA.		EA.	EA.	EA.			EA.		
197		456+15		I-71	LT					1							
198		460+85	468+85	I-71	LT	6	5	6		1		1					
		19+10	17+50	RAMP A	RT	2	2	2									
		461+10	469+65	I-71	RT	6	5	6		2		1					
		470+85	5+30 LT RAMP B	I-71	RT	1	1	1		1							
		48+10		REDBANK	LT										1		
		5+30	8+25	RAMP B	RT	2	2	2		1							
199		10+30	11+80	RAMP B	RT	2	2	2									
199		13+70	6+60	RAMP A	RT	5	3	5				2					
200		13+30	82+45 LT REDBANK	RAMP B	RT	5	5	5									
		0+95	6+25	RAMP D	RT	4	4	4		2							
		5+30		RAMP D	LT					1							
		5+40		RAMP A	RT	1	1	1		1							
201		490+20	500+10	I-71	RT	3	3	3		2							
		4+90	497+65 I-71	RAMP C	RT	3	3	3		3							
		494+85	495+33	I-71	LT	1	1	1		1							
202		504+90	513+00	I-71	LT	3	3	3		1							
202		517+05		I-71	RT	1	1	1									
203		518+80	521+60	I-71	RT	3	1	3				2					
		6+75	6+90	RAMP F	RT	1	1	1		1							
		18+20	22+02	RAMP F	RT	2	2	2		1							
		523+30		I-71	RT	1	1	1									
		45+70		STEWART	RT	1	1	1									
		50+38	52+30	STEWART	RT	2	2	2									
		49+70		STEWART	LT	1	1	1									
		55+10		STEWART	LT					1					1		
		2+55	1+15	RAMP E	RT	2	2	2									
204		540+40		I-71	LT					1							
205		550+10		I-71	LT					1	1						
			TOTAL SHEET 1 OF 5			58	52	58		22	1	6			2		

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE												

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 2
2 of 5

CALCULATED BY: [signature] DATE: 10-21-94
CHECKED BY: Gerald A. Petrie DATE: 10-21-94

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	ITEM 625 LIGHT POLE DESIGN ST15B20B51.7	LIGHT POLE DESIGN AT8B41.7	LIGHT TOWER, BBBB 100'	LIGHT TOWER, BBBBBB 100'	LUMINAIRE, STYLE C, TYPE II, 310 WATT H.P.S. 713.11, 480 VOLT	LUMINAIRE, ASYMMETRIC, 400 WATT H.P.S., 713.21, 480 VOLT	LUMINAIRE, SYMMETRIC, 400 WATT H.P.S., 713.21, 480 VOLT	LIGHT POLE FOUNDATION "A", 24" X 10' DEEP, AS PER PLAN	LIGHT TOWER MAINTENANCE PLATFORM, TYPE A	PULL BOX CONCRETE, 18"	PULL BOX CONCRETE, 18", AS PER PLAN	GROUND ROD	LIGHT TOWER FOUNDATION GRADING	LIGHT TOWER FOUNDATION "A", 36" X 25' DEEP, AS PER PLAN	CONDUIT, 2", 713.04	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3"	REFURBISH SIGN SERVICE "A", AS PER PLAN	EXISTING CONDUIT CLEANED	JUNCTION BOX EXTENSION "A"	TRENCH 12" DEEP	TRENCH 24" DEEP	POLE AND BRACKET CABLE NO. 10	DISTRIBUTION CABLE NO. 1/0 AWG, 5000 VOLT	DISTRIBUTION CABLE NO. 4 AWG, 5000 VOLT	ITEM 625 1-1/2" DUCT CABLE WITH 2 NO. 1/0 AWG 5000 VOLT CABLES	1-1/2" DUCT CABLE WITH 2 NO. 4 AWG 5000 VOLT CABLES	CONNECTOR KIT TYPE VII B	CONNECTOR KIT TYPE II	CONNECTOR KIT TYPE III	CABLE SPLICING KIT	PORTABLE POWER UNIT
						EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	L.F.	EA.	L.F.	EA.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.	EA.		EA.	EA.
206	L21-A	438+11	441+38	I-71	LT	1				2			1				1			327					327		204		674				1	1		
		441+38	444+65	I-71	LT	1				2			1				1			327					327		204		674				1	1		
		444+65	445+00	I-71	LT	1				2			1				1			35					35		204		90				1	1		
207		445+00	447+92	I-71	LT															292					292				584							
		447+92	451+19	I-71	LT	1				2			1				1			327					327		204		674				1	1		
		451+19	454+46	I-71	LT	1				2			1				1			327					327		204		674				1	1		
		454+46	456+15	I-71	LT	1				2			1				1			169					169		204		358				1	1		
		456+15		I-71	LT/LT										1						66	1							152						2	
		456+15	457+73	I-71	LT											1				158					158				336						2	
		457+73	460+00	I-71	LT	1				2			1				1			227					227		204		474				1	1		
208		460+00	461+00	I-71	LT															100					100				200							
		461+00	461+15	I-71	LT	1				2			1				1			15					15		204		50				1	1		
		461+15		I-71	RT/LT										1						72								164						2	
		461+15	463+40	I-71	LT											1				225					225				470						2	
		463+40	465+30	I-71	LT											1				190					190				380							
		465+30	467+15	I-71	LT			1			4						2		1	185					185				370							1
		467+15		I-71	LT/RT											1							80						188							
	L21-B	467+15	467+90	I-71	RT																		85					170							2	
		467+90	469+65	I-71	RT																	1	185	2				370				2				
		469+65	470+80	I-71	RT/LT										1						72		70			141				257					2	
		470+80	473+20	I-71	LT			1			4						2		1	240					240			500								
		473+20	475+00	I-71	LT											1				180					180			360								
		468+85		I-71	LT																		190	1												
209		475+00	475+60	I-71	LT															60					60			120								
		475+60	479+25	I-71	LT				1			6					2		1	365					365			750								
		479+25	481+45	I-71	LT											1				220					220			460							2	
		481+45	484+15	I-71	LT				1			6					2		1	270					270			560								
		484+15	486+30	I-71	LT											1				215					215			430								
		486+30		I-71	LT/LT				1			6		1			2		1		64					38				112						
		486+30	488+00	I-71	LT											1				170					170			360							2	
211		488+00	488+85	I-71	LT															85					85			170								
		488+85	491+40	I-71	LT											1				255					255			510								
		491+40	493+80	I-71	LT				1			6					2		1	240					240			500								
		493+80	496+20	I-71	LT											1				240					240			480								
		496+20	497+18	I-71	LT			1			4						2		1	98					98			216								
		1+25	497+18 I-71	RAMP C	RT/LT										1						83							186							2	
	–	3+63		RAMP C	LT/RT																		40													
	–	495+33		I-71	LT/RT																		165													
			TOTAL SHEET 2 OF 5			8		3	4	16	12	24	8	1	4	10	22		7	5542	357	2	815	3	5542	179	1632	6142	6512	369		2	8	8	18	1

CALC. BY / DATE	CHKD. BY / DATE	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	193/401

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 2
3 of 5

CALCULATED BY: [signature] DATE: 10-21-94
CHECKED BY: Gerald A. Petric DATE: 10-21-94

		STATION				ITEM 625																				SPEC	ITEM 625											ITEM 625						
SHEET NO.	REFERENCE NO.	FROM	TO	LOCATION	SIDE	LIGHT POLE DESIGN ST15B20B51.7	LIGHT POLE DESIGN AT12B41.7	LIGHT POLE DESIGN A8B8400	LIGHT TOWER FOUNDATION "B", 36" X 25' DEEP, AS PER PLAN	LIGHT TOWER FOUNDATION GRADING	LIGHT TOWER, BBBBBB 100'	LUMINAIRE, STYLE C, TYPE II, 310 WATT H.P.S. 713.11, 480 VOLT	LUMINAIRE, SYMMETRIC, 400 WATT H.P.S. 713.21, 480 VOLT	LUMINAIRE, STYLE B, TYPE II, 200 WATT H.P.S. 713.11, 480 VOLT	LIGHT POLE FOUNDATION, 24" X 8' DEEP	LIGHT POLE FOUNDATION "A", 24" X 10' DEEP, AS PER PLAN	PULL BOX, CONCRETE, 18"	PULL BOX, CONCRETE, 18", AS PER PLAN	GROUND ROD	LIGHT TOWER FOUNDATION, 36" X 25' DEEP	MEDIAN PULL BOX	REFURBISH SIGN SERVICE "A", AS PER PLAN	CONDUIT, 2", 713.04	CONDUIT, 3", 713.04	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3"	JUNCTION BOX EXTENSION "A"	TRENCH 12" DEEP	TRENCH 24" DEEP	POLE AND BRACKET CABLE NO. 10	DISTRIBUTION CABLE NO. 1/0 AWG, 5000 VOLT	DISTRIBUTION CABLE NO. 4 AWG, 5000 VOLT	MEDIAN LIGHT POLE FOUNDATION, 8' DEEP	1-1/2" DUCT CABLE WITH 2 NO. 1/0 AWG 5000 VOLT CABLES	1-1/2" DUCT CABLE WITH 2 NO. 4 AWG 5000 VOLT CABLES	CONNECTION TO EXISTING CONDUIT	EXISTING CONDUIT CLEANED	LUMINAIRE, STYLE B, TYPE II, 200 WATT H.P.S. 713.11, 240 VOLT	POWER SERVICE	CONNECTOR KIT TYPE VII A	CONNECTOR KIT TYPE VII B	CONNECTOR KIT TYPE VII C	CONNECTOR KIT TYPE II	CONNECTOR KIT TYPE III	CABLE SPLICING KIT
						EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	L.F.	L.F.	EA.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.	L.F.	L.F.	EA.	L.F.	EA.	EA.	EA.			EA.		EA.
211	L21-B	497+18	500+00	I-71	LT													1					282				282			584														2
211		500+10	500+00	I-71	RT/LT												1					1			82					184														2
211		500+00	503+00	I-71	LT	1						2				1			1				300				300		204													1	1	
209		479+25	6+00 RAMP A	I-71	LT																				70			230					310											
210		6+00	4+70	RAMP A	LT																							130					130											
		4+70	2+53	RAMP A	LT					1	1		6						2	1								220					230											
		2+53	2+53 LT RAMP A	RAMP D	RT												1					1			62					144														2
		2+53	0+59	RAMP A	LT												1											194					204											2
		0+59	84+50 REDBANK	RAMP A	LT																1																							
		84+50		REDBANK	LT				1		1		6						2											444									2					
		5+30		LT/RT	RAMP D																															45								
208	L21	467+15	48+05 REDBANK	I-71	RT																			93				93		186	186													
		48+05		REDBANK	LT												1																											4
		48+10	POWER SERVICE L21	REDBANK	LT																																	1						
210	CL21-A	81+57	79+32	REDBANK	CL			1											1										128		470	1					2					1	1	
		79+32	76+87	REDBANK	CL			1											1										128		510	1					2					1	1	
		76+87	76+85	REDBANK	CL			1											1										128		24	1					2					1	1	
		76+85	75+44	REDBANK	CL/RT																1				42			141						222					2					
		75+44		REDBANK	RT												1																											2
		75+39	POWER SERVICE CL21	REDBANK	RT																																	1						
212	L22-A	503+00	503+20	I-71	LT																		20				20																	
		503+20	504+95	I-71	LT	1						2				1			1				175				175		204		370											1	1	
		504+95		I-71	LT/LT												1					1			76						172													2
		504+95	506+40	I-71	LT													1					145				145				310													2
		506+40	509+60	I-71	LT	1						2				1			1				320				320		204		660											1	1	
		509+60	512+75	I-71	LT	1						2				1			1				315				315		204		650											1	1	
		512+75	515+90	I-71	LT	1						2				1			1				315				315		204		650											1	1	
		515+90	518+00	I-71	LT	1						2				1			1				210				210		204		440											1	1	
213		518+00	519+08	I-71	LT																		108				108				216													
		519+08	519+90	I-71	LT/RT	1						2				1			1						93				204		402				1	100						1	1	
		519+90		I-71	RT																	1				1													2					
212		515+90	9+50 RAMP E	I-71	LT																				92			16						118										
		9+50	7+16	RAMP E	RT		1							1	1				1									234	108					244						2		1	1	
213		7+16	4+83	RAMP E	RT		1							1	1				1									233	108					243								1	1	
		4+83	2+50	RAMP E	RT		1							1	1				1									233	108					243								1	1	
		2+50	0+95	RAMP E	RT		1							1	1				1									155	108					165								1	1	
		0+95	55+10 LT STEWART	RAMP E	RT		1							1	1				1									122	108					132								1	1	
	–	520+40	521+60	I-71	RT																					2																		
			TOTAL SHEET 3 OF 5			7	5	3	1	1	2	14	12	5	5	7	6	2	19	1	2	4	2190	93	517	3	2190	2001	2352	1542	5060	3	874	1367	1	145	6	2	6	2		15	15	18

EC-1 F:\ELECDWG\88090\88090S2B.DWG OCTOBER-17-1994 USER: RGARDNER TIME:20:29

LIGHTING QUANTITIES SUB-SUMMARY

HAM-71-1.30/9.00
SECTION 2
4 of 5

CALCULATED BY: (signature) DATE: 10-21-94
CHECKED BY: Donald A. Petric DATE: 10-21-94

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	ITEM 625: LIGHT POLE DESIGN ST15B20B51.7	LIGHT POLE DESIGN ST18BB51.7	LIGHT POLE DESIGN ST15BB51.7	LIGHT POLE DESIGN AT10B41.7	LIGHT POLE DESIGN AT6B41.7	LIGHT POLE DESIGN A18BB71.7, AS PER PLAN	LUMINAIRE, STYLE C, TYPE II, 310 WATT H.P.S. 713.11, 480 VOLT	LUMINAIRE, STYLE B, TYPE II, 200 WATT H.P.S. 713.11, 480 VOLT	LIGHT POLE FOUNDATION "B", 24" X 10' DEEP, AS PER PLAN	LIGHT POLE FOUNDATION, 24" X 8' DEEP	LIGHT POLE FOUNDATION "A", 24" X 10' DEEP, AS PER PLAN	LIGHT POLE FOUNDATION, 36" X 35' DEEP	PULL BOX CONCRETE, 18"	PULL BOX CONCRETE, 18", AS PER PLAN	GROUND ROD	CONDUIT, 2", 713.04	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3"	TRENCH 12" DEEP	TRENCH 24" DEEP	POLE AND BRACKET CABLE NO. 10	DISTRIBUTION CABLE NO. 2 AWG, 5000 VOLT	DISTRIBUTION CABLE NO. 4 AWG, 5000 VOLT	1-1/2" DUCT CABLE WITH 2 NO. 2 AWG 5000 VOLT CABLES	1-1/2" DUCT CABLE WITH 2 NO. 4 AWG 5000 VOLT CABLES	202: REMOVAL AND REPLACEMENT OF MEDIAN BARRIER CAP	ITEM 625: POWER SERVICE	CONNECTOR KIT TYPE II	CONNECTOR KIT TYPE III	CABLE SPLICING KIT
						EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.	EA.	EA.	EA.
213	L22-B	7+25	9+40	RAMP F	RT					1			1		1					1				215	96				225			1	1	
		9+40	11+45	RAMP F	RT					1			1		1					1				205	96				215			1	1	
		11+45	13+53	RAMP F	RT					1			1		1					1				208	96				218			1	1	
		13+53	15+81	RAMP F	RT					1			1		1					1				228	96				238			1	1	
		15+81	18+00	RAMP F	RT					1			1		1					1				219	96				229			1	1	
		18+00	18+65	RAMP F	RT					1			1		1					1				65	96				75			1	1	
		1+90	18+65 RT RAMP F	RAMP F1	RT				1				1		1					1		33		42	104				85			1	1	
		18+65	19+87	RAMP F	RT													1						122					132					2
		19+87	522+26 CL I-71	RAMP F	RT					1			1		1					1				365	96				375			1	1	
		522+26	51+95 RT STEWART	I-71	CL						1	2					1			1				150	252				160			1	1	
		51+95	55+10	STEWART	RT/LT													1				65		315				390						2
	L22	55+10		STEWART	LT													1																2
	L22	55+10	POWER SERVICE L22	STEWART	LT																										1			
	L22-B	51+95	523+61 RT I-71	STEWART	RT																	70		96				176						
		523+61	525+45	I-71	RT														1		184		184			388								2
		525+45	528+64	I-71	RT	1						2				1				1	319		319		204	658						1	1	
		528+64	531+83	I-71	RT	1						2				1				1	319		319		204	658						1	1	
		531+83	532+00	I-71	RT	1						2				1				1	17		17		204	54						1	1	
214		532+00	535+02	I-71	RT																302		302			604								
		535+02	538+21	I-71	RT	1						2				1				1	319		319		204	658						1	1	
		538+21	540+40	I-71	RT	1						2				1				1	219		219		204	458						1	1	
		540+40		I-71	LT/RT													1				64				148								2
		540+40	541+40	I-71	RT													1			100		100			220								2
		541+40	544+59	I-71	RT	1						2				1				1	319		319		204	658						1	1	
		544+59	546+00	I-71	RT	1						2				1				1	141		141		204	302						1	1	
215		546+00	547+75 CL I-71	I-71	RT/CL																175		175			350								
		547+75	548+50 LT I-71	I-71	CL/LT		1					2				1				1	75			75	212	170						1	1	
		548+50	550+90 CL I-71	I-71	LT/CL													1			240			240		480								
		550+90	553+90 RT I-71	I-71	CL/RT		1					2		1						1	300			300		620						1	1	
		553+90	556+85	I-71	RT			1				2		1						1	295			295		610						1	1	
		556+85	559+80	I-71	RT			1				2		1						1	295			295		610						1	1	
		559+80		I-71	RT			1				2		1						1												1	1	
	–	548+25	559+85	I-71	CL																									1160				
		548+50		I-71	CL/RT																	70				160								2
		548+50	550+10	I-71	RT														2					160				170						2
			TOTAL SHEET 4 OF 5			7	2	3	1	7	1	26	8	4	8	8	1	6	3	21	3619	302	2414	3595	2668	7806		736	1952	1160	1	21	21	14

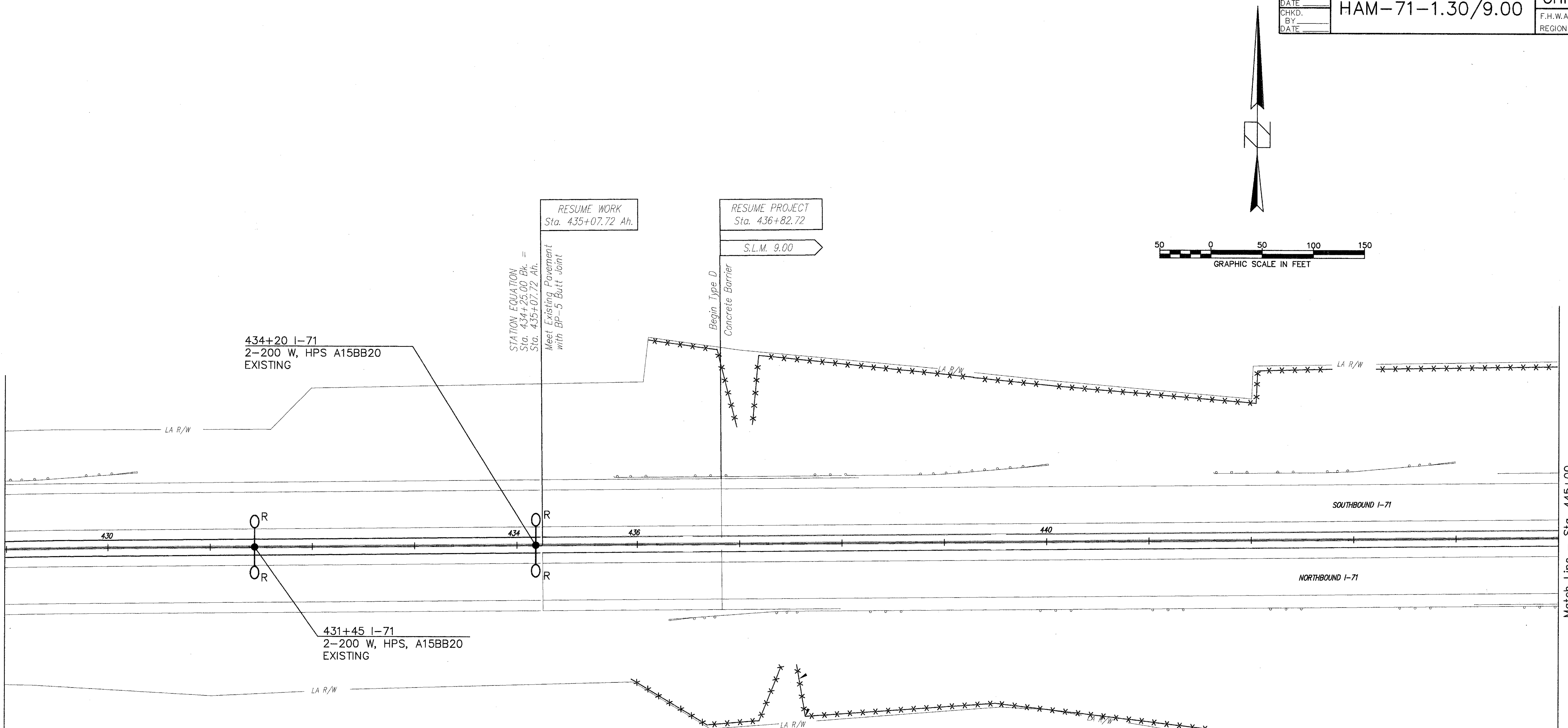
CALC. BY ___ DATE ___ CHKD. BY ___ DATE ___ | HAM–71–1.30/9.00 | OHIO F.H.W.A. REGION 5 | 195/401

LIGHTING QUANTITIES SUB–SUMMARY

HAM–71–1.30/9.00
SECTION 2
5 of 5

CALCULATED BY: Robert F. ... DATE: 10-21-94
CHECKED BY: Gerald A. Petrie DATE: 10-21-94

SHEET NO.	REFERENCE NO.	STATION FROM	STATION TO	LOCATION	SIDE	LIGHT POLE DESIGN AT10B41.7 (ITEM 625)	GLARE SHIELD (ITEM 625)	LUMINAIRE, STYLE B, TYPE III, 200 WATT H.P.S. 713.11, 480 VOLT (ITEM 625)	LUMINAIRE, STYLE B, TYPE II, 200 WATT H.P.S. 713.11, 480 VOLT (ITEM 625)	LUMINAIRE, UNDERPASS, 100 WATT H.P.S., 713.13 (ITEM 625)	LIGHT POLE FOUNDATION, 24" X 8' DEEP (ITEM 625)	PULL BOX CONCRETE, 18" (ITEM 625)	GROUND ROD (ITEM 625)	CONDUIT, 3", 713.04 (ITEM 625)	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, 3" (ITEM 625)	TRENCH 24" DEEP (ITEM 625)	POLE AND BRACKET CABLE NO. 10 (ITEM 625)	DISTRIBUTION CABLE NO. 4 AWG, 5000 VOLT (ITEM 625)	SERVICE TO UNDERPASS LIGHTING (ITEM 625)	1-1/2" DUCT CABLE WITH 2 NO. 4 AWG 5000 VOLT CABLES (ITEM 625)	EXISTING CONDUIT CLEANED (SPEC)	POWER SERVICE (ITEM 625)	CONNECTOR KIT TYPE II (ITEM 625)	CONNECTOR KIT TYPE III (ITEM 625)	CABLE SPLICING KIT (ITEM 625)
						EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.	L.F.	EA.	EA.	EA.	EA.	EA.
213	CL22–A	45+26	47+07	STEWART	RT/LT	1		1			1		1		55	190	104			255			1	1	
		47+07	49+67	STEWART	LT	1		1			1		1	260		260	104	540					1	1	
		49+67	51+28	STEWART	LT					3		1		161		161		342	2						2
		51+28	51+40	STEWART	LT/RT	1	1	1			1		1		66	30	104			106			1	1	
		21+63	50+42 RT STEWART	RAMP F	RT	1	1		1		1		1	182		182	104	384					1	1	
		50+42	51+40	STEWART	RT					3		1		103		103		226	2						2
		51+40	52+43	STEWART	RT							1				106				116					2
		52+43	55+35	STEWART	RT	1		1			1		1			292	104			302			1	1	
		55+35	55+15	STEWART	RT/LT	1		1			1		1		65	27				102			1	1	
		56+80	55+15	STEWART	LT	1		1			1		1			165	104			175			1	1	
		55+15		STEWART	LT							1													2
		55+15	POWER SERVICE CL22	STEWART	LT																	1			
			TOTAL SHEET 5 OF 5			7	2	6	1	6	7	4	7	706	186	1516	624	1492	4	1056		1	7	7	8



DEMOLITION LEGEND

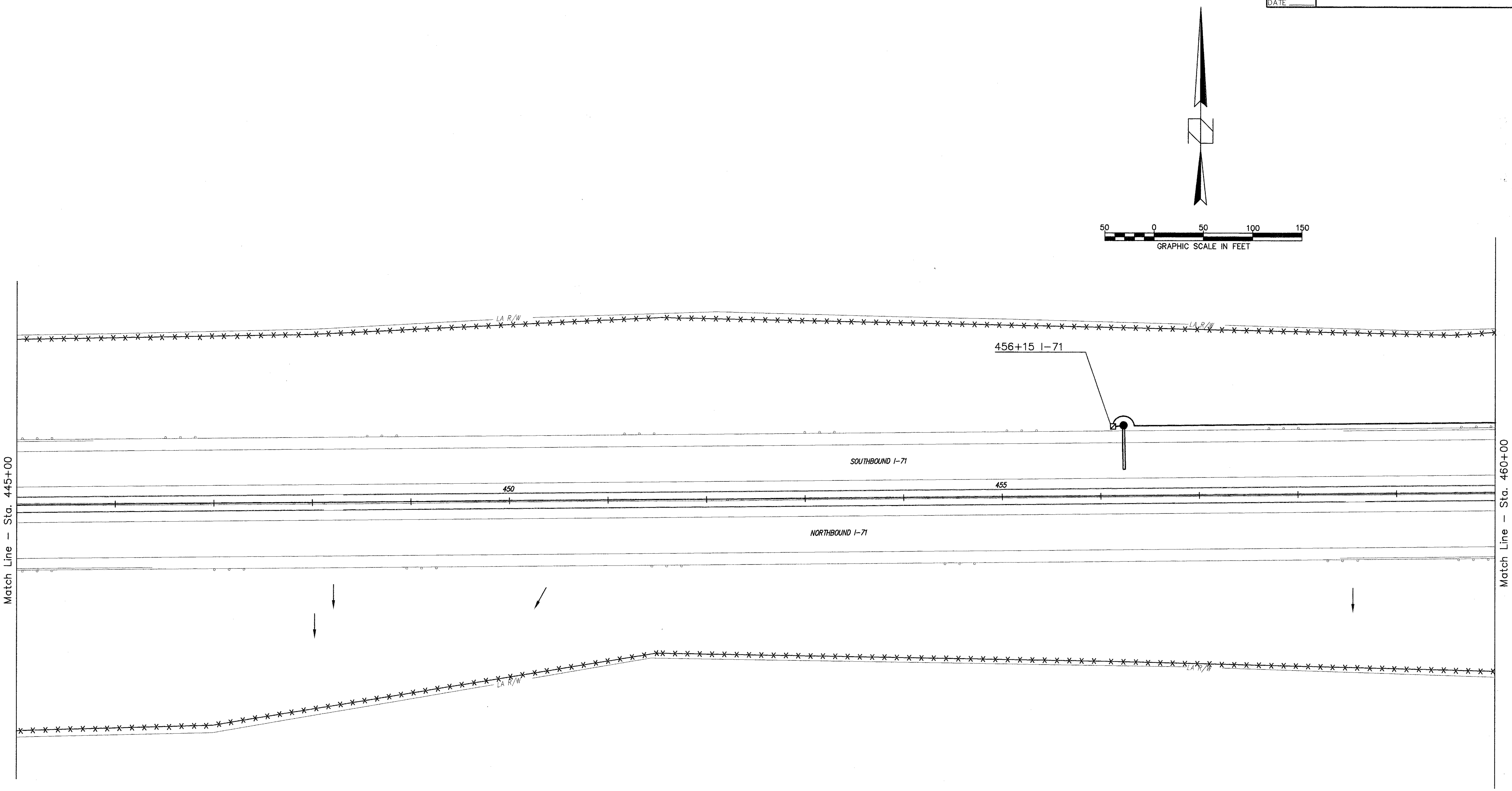
P	EXIST PHOTOCELL TO BE REMOVED
	EXIST P.B. TO BE REMOVED UNLESS NOTED OTHERWISE
	EXIST WALL OR BARRIER J.B. TO REMAIN
	EXIST TRUSS O.H. SIGN TO REMAIN
	EXIST O.H. SIGN TO REMAIN
	EXIST. 200 W H.P.S. TO BE REMOVED U.N.O.
	EXIST. 200 W H.P.S. TO BE REMOVED U.N.O.
	EXIST 200 W H.P.S., BRACKET AND LUMINAIRE ONLY (WALL MOUNTED) TO BE REMOVED U.N.O.
	EXIST 200 W H.P.S., STRUCTURE, BARRIER OR WALL MTD. TO BE REMOVED. ADJACENT RECESSED J.B. TO REMAIN
	EXIST LUMINAIRE AND GLARE SHIELD TO BE REMOVED
⊕	EXIST POST TOP MOUNTED LUMINAIRE, TYPE V DISTRIBUTION
	EXIST SURFACE MOUNTED PENDANT TYPE UNDERPASS LUMINAIRE TO REMAIN. TYPE V DISTRIBUTION
	EXIST 400 W MERCURY VAPOR LUMINAIRE ON UTILITY POLE OWNED BY C.G. & E.
—PE—	EXIST PRIMARY CONDUCTORS
	EXIST CIRCUIT CONDUCTORS TO BE MAINTAINED
	EXIST CIRCUIT CONDUCTORS TO BE ABANDONED
	EXIST BURIED CONDUIT TO REMAIN, MAINTAIN EXISTING CIRCUIT CONDUCTORS
	EXIST BURIED CONDUIT TO REMAIN.
	EXIST CIRCUIT CONDUCTORS IN EXISTING STRUCTURE CONDUIT TO BE REMOVED
	EXIST CIRCUIT CONDUCTORS IN EXISTING BURIED CONDUIT TO BE REMOVED
▲	EXIST CONTROL CENTER TO BE REMOVED
△	EXIST CONTROL CENTER TO REMAIN
T	EXIST TRANSFORMER TO REMAIN
J	JUNCTION BOX, SURFACE MOUNTED
	EXIST UNDERPASS LUMINAIRE TO BE REMOVED
	EXIST SIGN TO REMAIN, NO POWER REQUIREMENTS
R	SUBSCRIPT "R" INDICATES DEVICE TO REMAIN
	EXIST (POWER SERVICE FOR SIGN) TO BE REMOVED

U.N.O. DENOTES UNLESS NOTED OTHERWISE

DEMOLITION

STA. 429+00 TO 445+00

CALC. BY ___ DATE ___ CHKD. BY ___ DATE ___	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	197/401



DEMOLITION

STA. 445+00 TO STA. 460+00

CALC. BY / DATE / CHKD. BY / DATE	HAM–71–1.30/9.00	OHIO F.H.W.A. REGION 5	198/401

DEMOLITION

STA. 460+00 TO STA. 475+00

CALC. BY DATE CHKD. BY DATE	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	199/401

DEMOLITION

STA. 475+00 TO STA. 488+00

RED BANK EXPWY INTERCHANGE

CALC. BY ____ DATE ____
CHKD. BY ____ DATE ____

HAM-71-1.30/9.00

OHIO
F.H.W.A. REGION 5

201/401

DEMOLITION

STA. 488+00 TO STA. 503+00

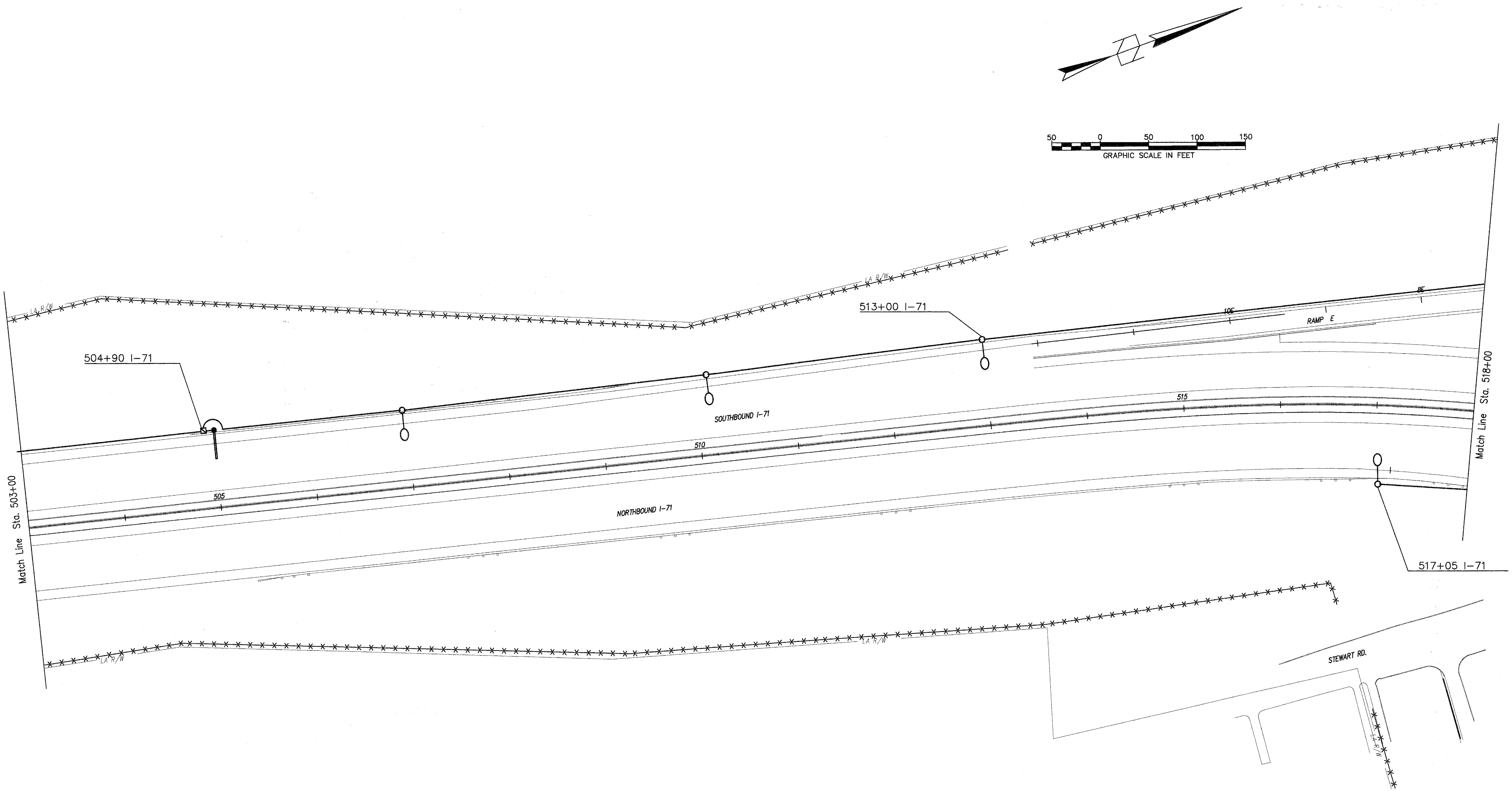
EC-1 F:\ELECDWG\88090\E488-503.DWG OCTOBER-17-1994 USER: RGARDNER TIME:21:02

CALC. BY DATE
CHKD. BY DATE

HAM-71-1.30/9.00

OHIO
F.H.W.A. REGION 5

202
401



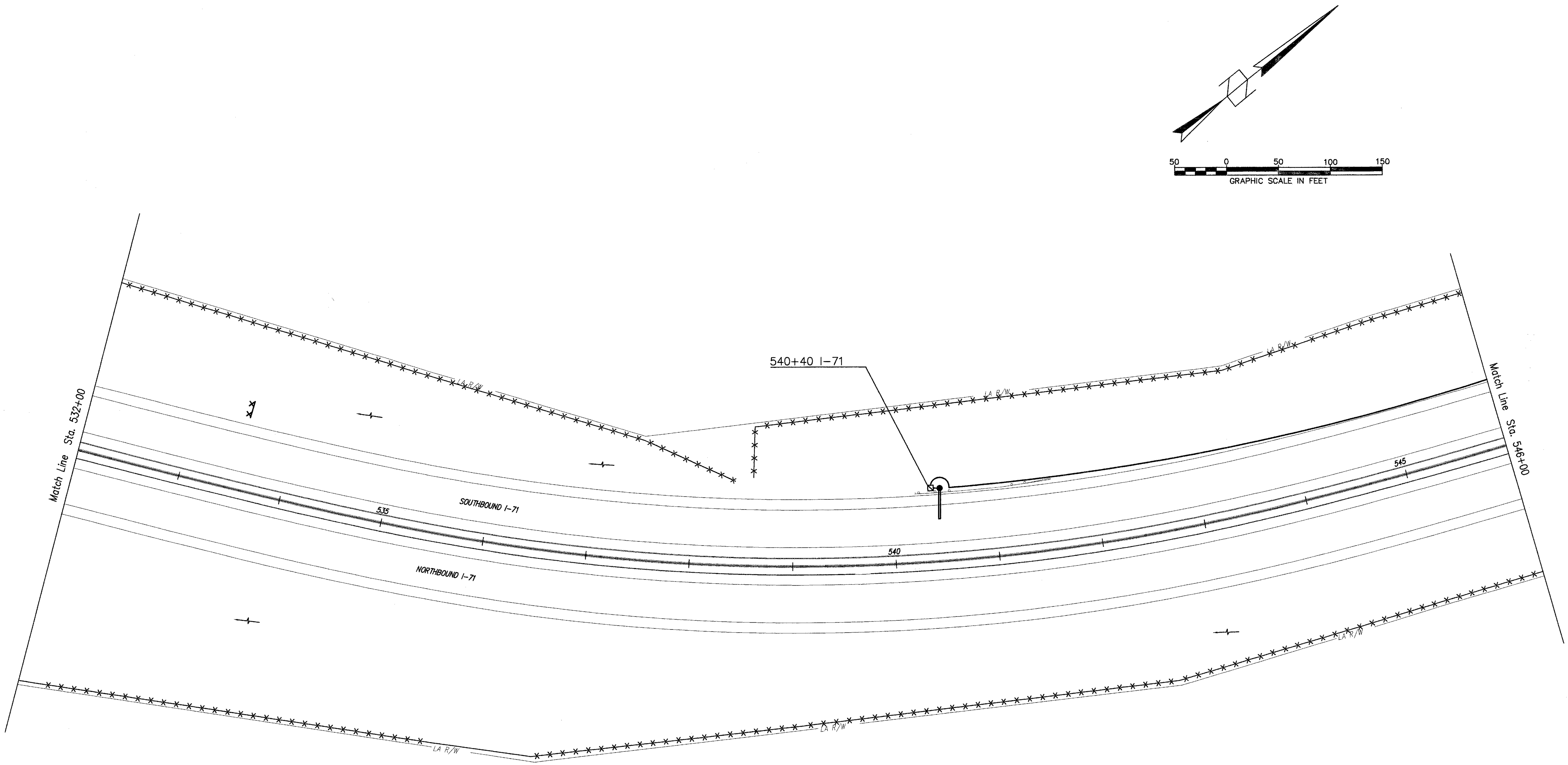
DEMOLITION

STA. 503+00 TO STA. 518+00

DEMOLITION

STA. 518+00 TO STA. 532+00

CALC. BY ___ DATE ___ CHKD. BY ___ DATE ___	HAM–71–1.30/9.00	OHIO F.H.W.A. REGION 5	204/401



DEMOLITION

STA. 532+00 TO STA. 546+00

EC-1 F:\ELECDWG\88090\E532-546.DWG OCTOBER-17-1994 USER: RGARDNER TIME:21:20

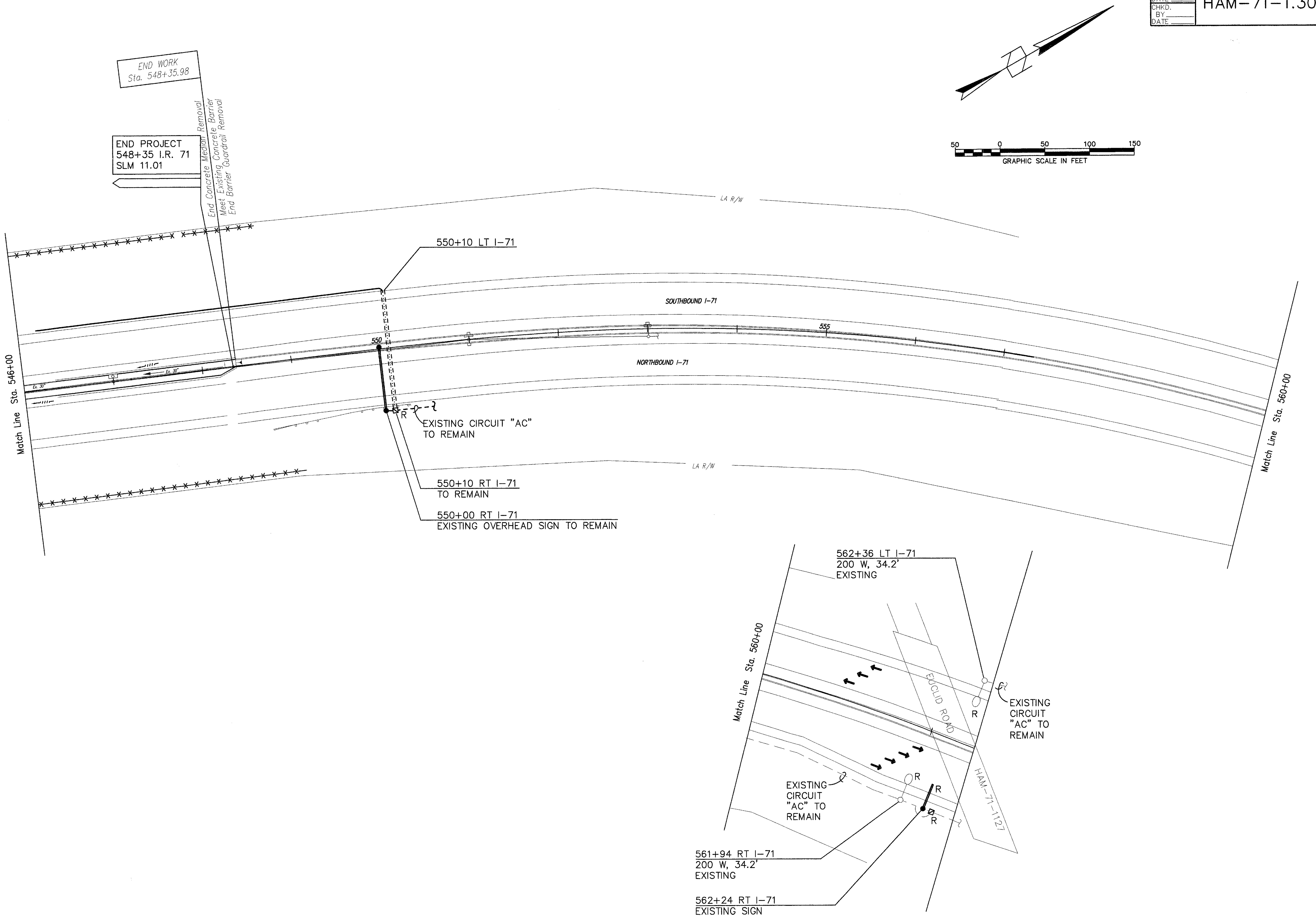
REL 12

CALC. BY DATE
CHKD. BY DATE

HAM-71-1.30/9.00

OHIO
F.H.W.A. REGION 5

205
401



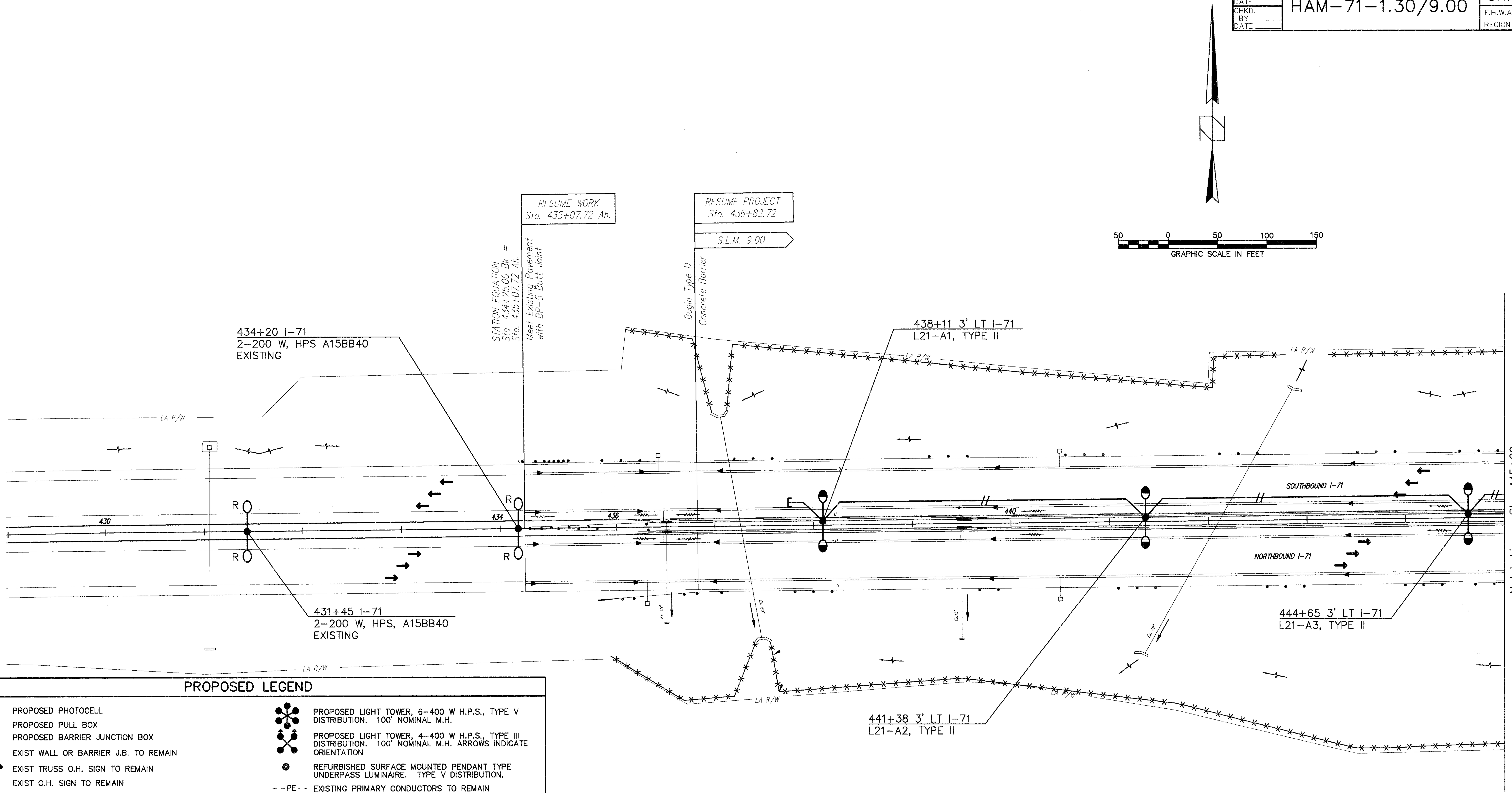
DEMOLITION

STA. 546+00 TO 561+00

EC-1 F:\ELECDWG\88090\E546-561.DWG OCTOBER-17-1994 USER: RGARDNER TIME:21:21

REL 12

CALC. BY ___ DATE ___ CHKD. BY ___ DATE ___	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	206/401



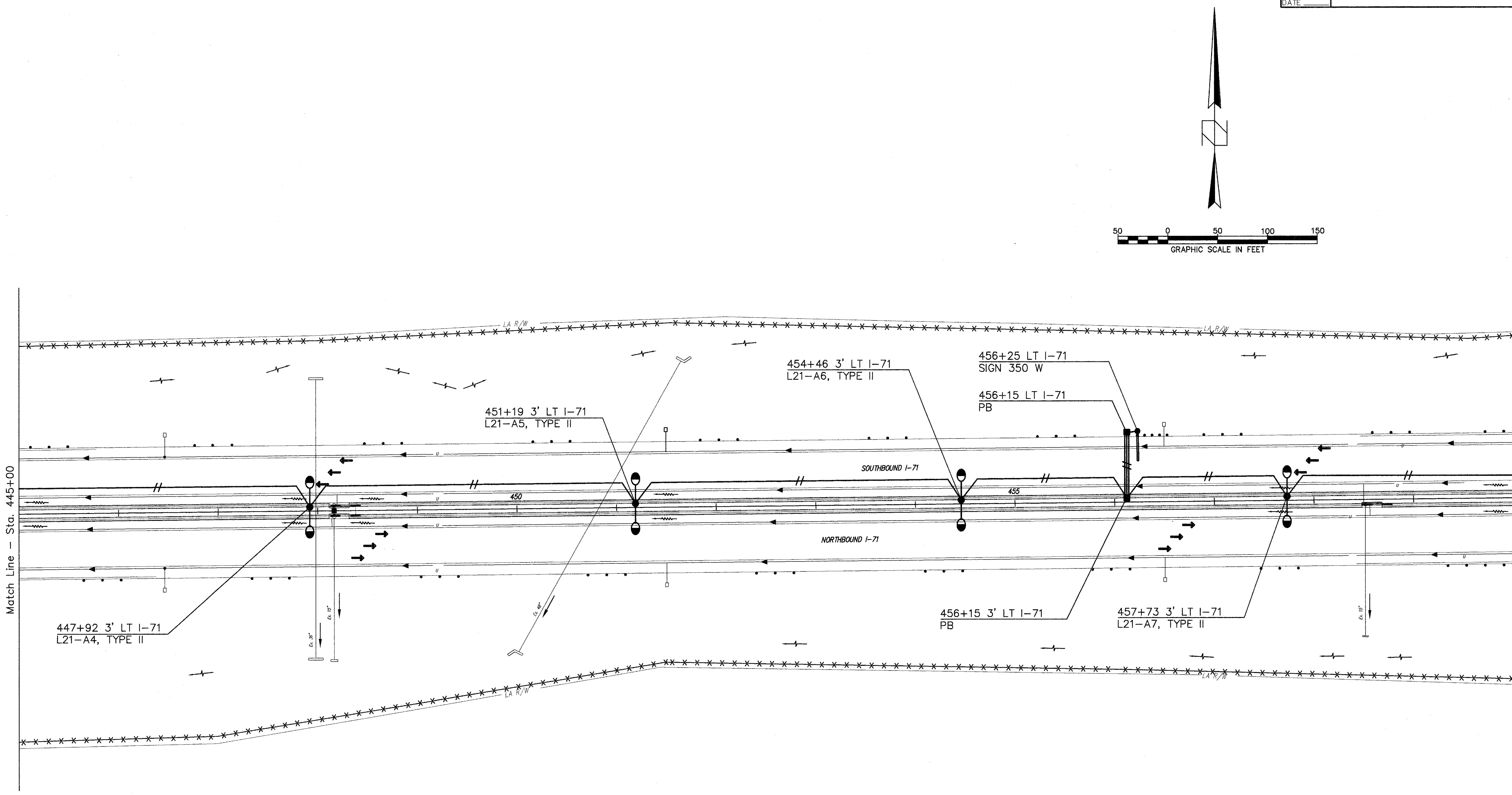
PROPOSED LEGEND

- P — PROPOSED PHOTOCELL
- PROPOSED PULL BOX
- PROPOSED BARRIER JUNCTION BOX
- EXIST WALL OR BARRIER J.B. TO REMAIN
- EXIST TRUSS O.H. SIGN TO REMAIN
- EXIST O.H. SIGN TO REMAIN
- REERECTED 200 W H.P.S. LUMINAIRE
- REERECTED 2-200 W H.P.S. LUMINAIRES
- REERECTED 200 W H.P.S. LUMINAIRE STRUCTURE, BARRIER OR WALL MTD. ADJACENT TO EXISTING J.B.
- REERECTED LUMINAIRE WITH GLARE SHIELD
- REFURBISHED 150 W H.P.S. UNDERPASS LUMINAIRE
- EXISTING POST TOP MOUNTED LUMINAIRE, TYPE V DISTRIBUTION
- PROPOSED 2-310 W H.P.S. LUMINAIRES
- PROPOSED 200 W H.P.S. LUMINAIRE
- REERECTED 200 W H.P.S. LUMINAIRE, WALL MTD, BRACKET ONLY
- PROPOSED 2-200 W H.P.S. LUMINAIRES
- EXISTING 2-200 W H.P.S. LUMINAIRES
- CONNECTION TO EXISTING AT THIS LOCATION
- EXIST 400 WATT MECURY VAPOR LUMINAIRE ON UTILITY POLE OWNED BY C.G. & E.
- C.G. & E. UTILITY POLE
- PROPOSED LIGHT TOWER, 6-400 W H.P.S., TYPE V DISTRIBUTION. 100' NOMINAL M.H.
- PROPOSED LIGHT TOWER, 4-400 W H.P.S., TYPE III DISTRIBUTION. 100' NOMINAL M.H. ARROWS INDICATE ORIENTATION
- REFURBISHED SURFACE MOUNTED PENDANT TYPE UNDERPASS LUMINAIRE. TYPE V DISTRIBUTION.
- --PE-- EXISTING PRIMARY CONDUCTORS TO REMAIN
- 2 — PROPOSED CIRCUIT CONDUCTORS. HASH MARKS INDICATE QTY OF CONDUCTORS. NUMBER DENOTES WIRE SIZE IF OTHER THAN #4 AWG.
- EXIST CIRCUIT CONDUCTORS TO BE MAINTAINED
- PROPOSED CIRCUIT CONDUCTORS IN NEW CONDUIT
- PROPOSED CIRCUIT CONDUCTORS IN EXISTING BURIED CONDUIT
- EXIST BURIED CONDUIT TO REMAIN, MAINTAIN EXISTING CIRCUIT CONDUCTORS
- ABANDONED BURIED CONDUIT
- PROPOSED CONTROL CENTER
- EXIST CONTROL CENTER TO REMAIN
- T — EXIST TRANSFORMER TO REMAIN
- J — JUNCTION BOX, SURFACE MOUNTED
- R — SUBSCRIPT "R" INDICATES EXISTING TO REMAIN

STA. 429+00 TO STA. 445+00

REL 12 EC-7 F:\ELECDWG\88090\N429-445.DWG OCTOBER-18-1994 USER: RGARDNER TIME:13:50

CALC. BY ___ DATE ___ CHKD. BY ___ DATE ___	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	207 / 401



REL 12 EC-7 F:\ELEC\DWG\88090\N445-460.DWG OCTOBER-18-1994 USER: RGARDNER TIME:13:54

STA. 460+00 TO STA. 475+00

REL 12 EC-1 F:\ELECDWG\88090\W460-475.DWG OCTOBER-17-1994 USER: RGARDNER TIME:21:30

CALC. BY ___ DATE ___ CHKD. BY ___ DATE ___	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	209/401

STA. 475+00 TO STA. 488+00

REL 12 EC-1 F:\ELECDWG\88090\475-488.DWG OCTOBER-20-1994 USER: RGARDNER TIME:11:14

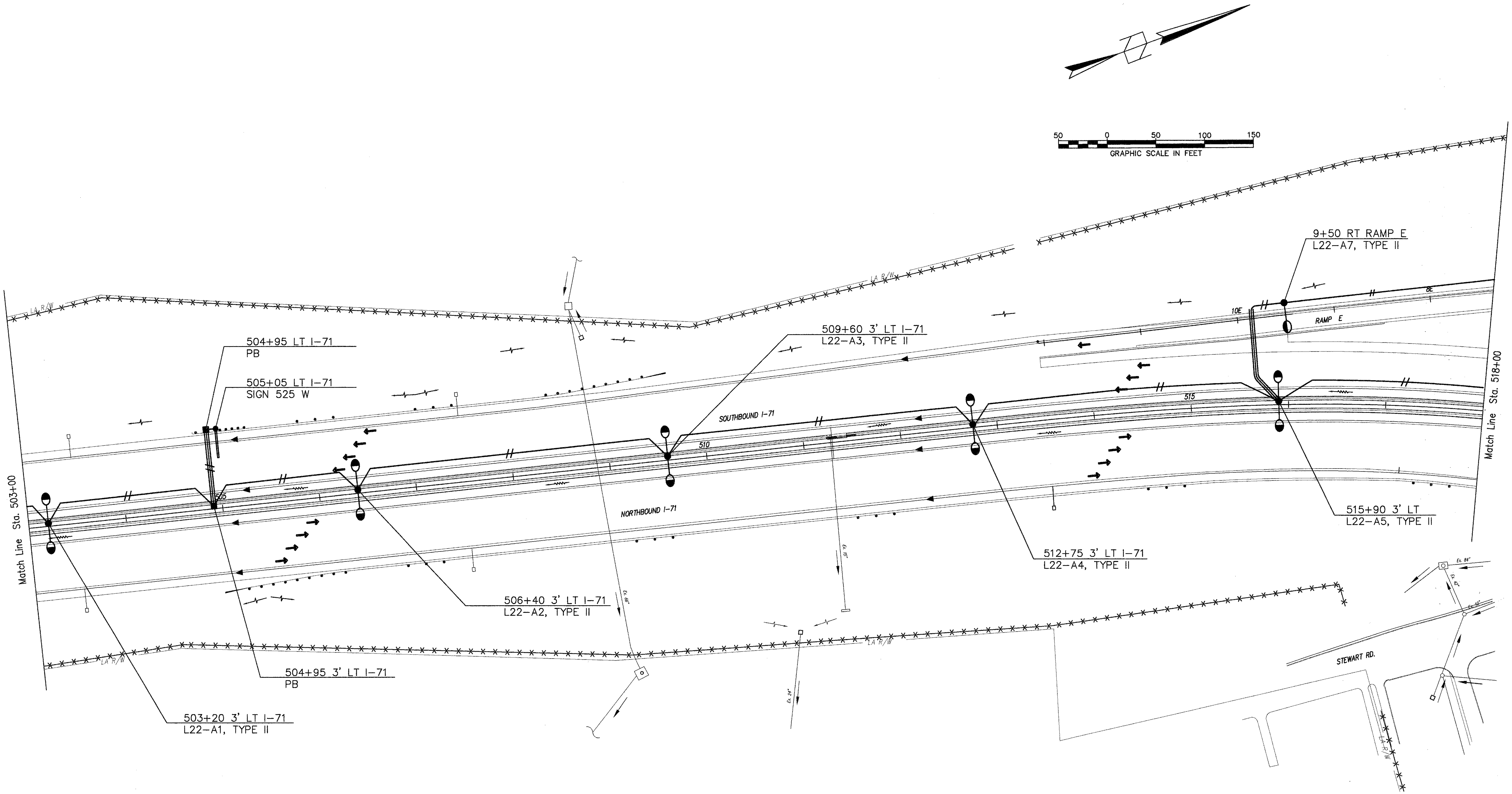
RED BANK EXPWY INTERCHANGE

CALC. BY ___ DATE ___ CHKD. BY ___ DATE ___	HAM–71–1.30/9.00	OHIO F.H.W.A. REGION 5	211/401

STA. 488+00 TO STA. 503+00

REL 12 EC-7 F:\ELECDWG\88090\H488-503.DWG OCTOBER-18-1994 USER: RGARDNER TIME:13:56

CALC. BY ___ DATE ___ CHKD. BY ___ DATE ___	HAM–71–1.30/9.00	OHIO F.H.W.A. REGION 5	212/401



STA. 503+00 TO STA. 518+00

REL 12 EC-7 F:\ELECDWG\88090\N503-518.DWG OCTOBER-18-1994 USER: RGARDNER TIME:13:56

CALC. BY / DATE	HAM-71-1.30/9.00	OHIO	213/401
CHKD. BY / DATE		F.H.W.A. REGION 5	

GRAPHIC SCALE IN FEET: 50 0 50 100 150

CODED NOTES:

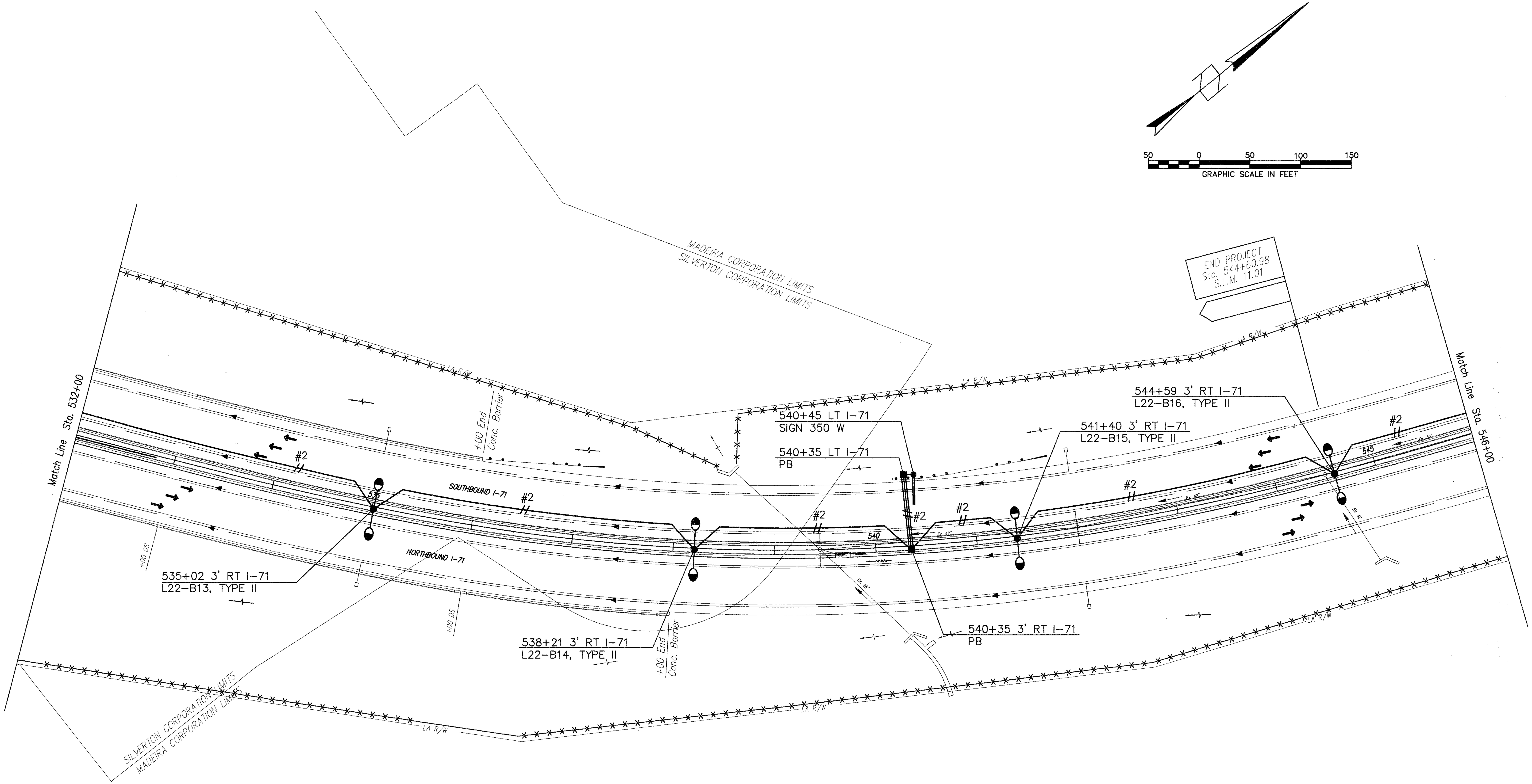
1. EXISTING 2" STRUCTURE CONDUIT.
2. A DEEP DRAINAGE DITCH BEGINS TO FORM APPROXIMATELY 12' RIGHT OF EDGE OF PAVEMENT ON RAMP F.

VILLAGE OF SILVERTON CIRCUITS SHALL BE IN A SEPARATE TRENCH FROM STATE CIRCUITS. MAINTAIN A MINIMUM OF 4 FEET SEPARATION BETWEEN STATE AND VILLAGE CIRCUITS.

FC-1 F:\FLFCDWG\88090\N518-532.DWG OCTOBER-17-1994 USER: RGARDNER TIME: 21:34 REF. 12

STA. 518+00 TO STA. 532+00

HAM-71-1.30/9.00 | OHIO F.H.W.A. REGION 5 | 214/401



STA. 532+00 TO STA. 546+00

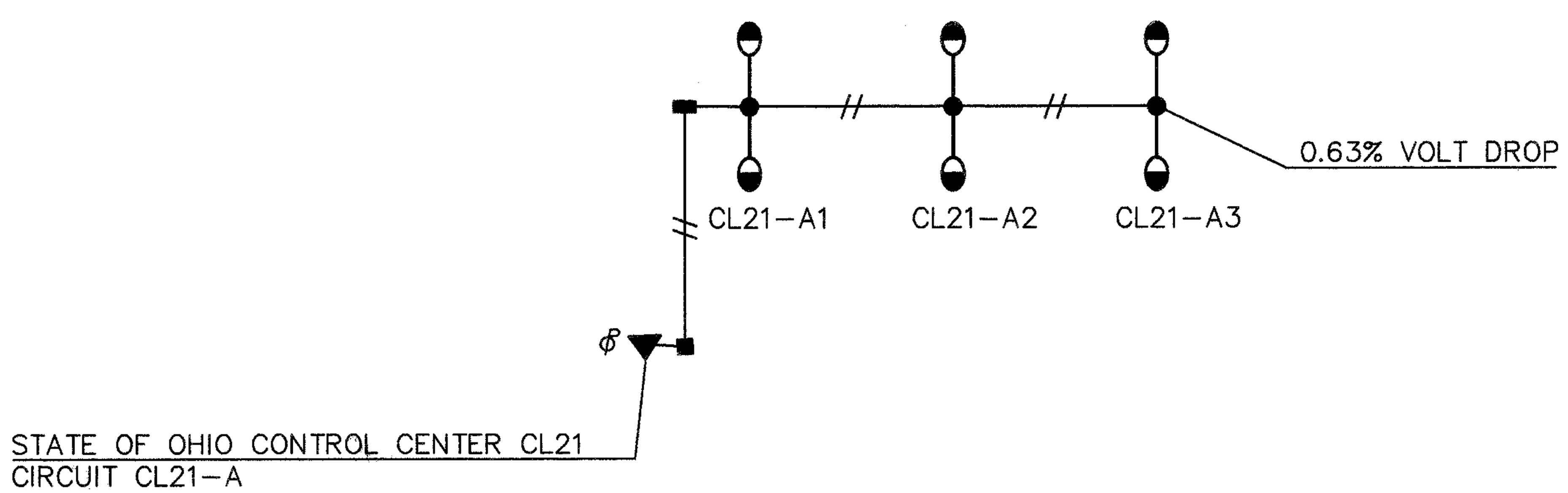
CALC. BY / DATE / CHKD. BY / DATE	HAM–71–1.30/9.00	OHIO F.H.W.A. REGION 5	215/401

STA. 546+00 TO STA. 561+00

REL 12 EC–7 F:\ELECDWG\88090\N546–561.DWG OCTOBER–18–1994 USER: RGARDNER TIME:13:58

CONTROL CENTER L21

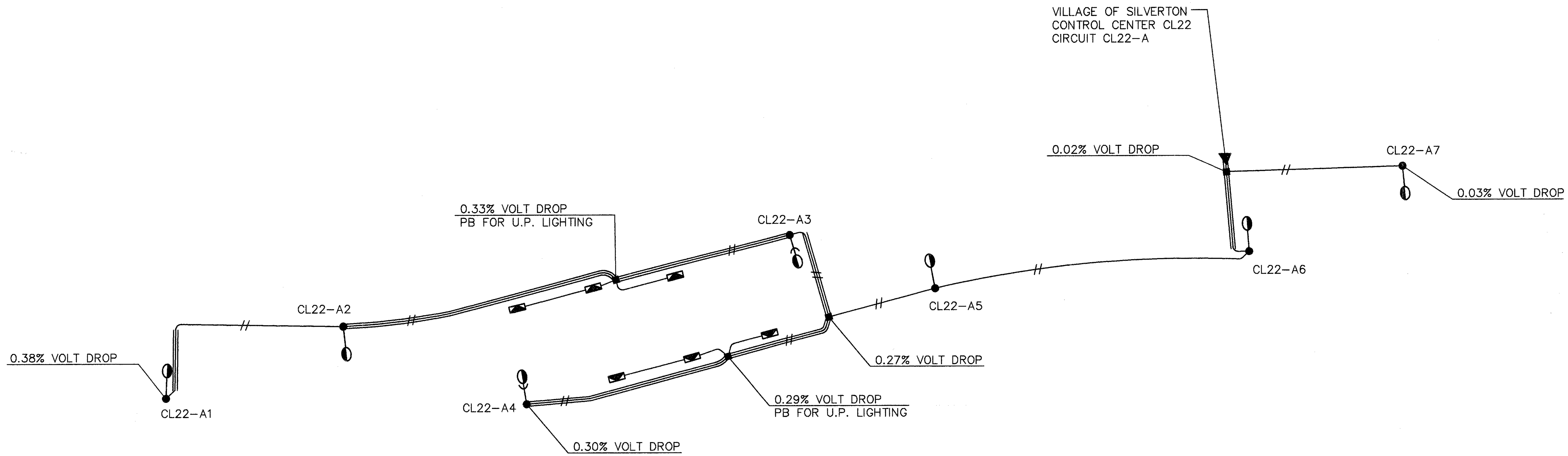
CIRCUIT L21-A, L21-B NTS



CONTROL CENTER CL21

CIRCUIT CL21-A NTS

CONTROL CENTER L22
CIRCUIT L22-A & B NTS



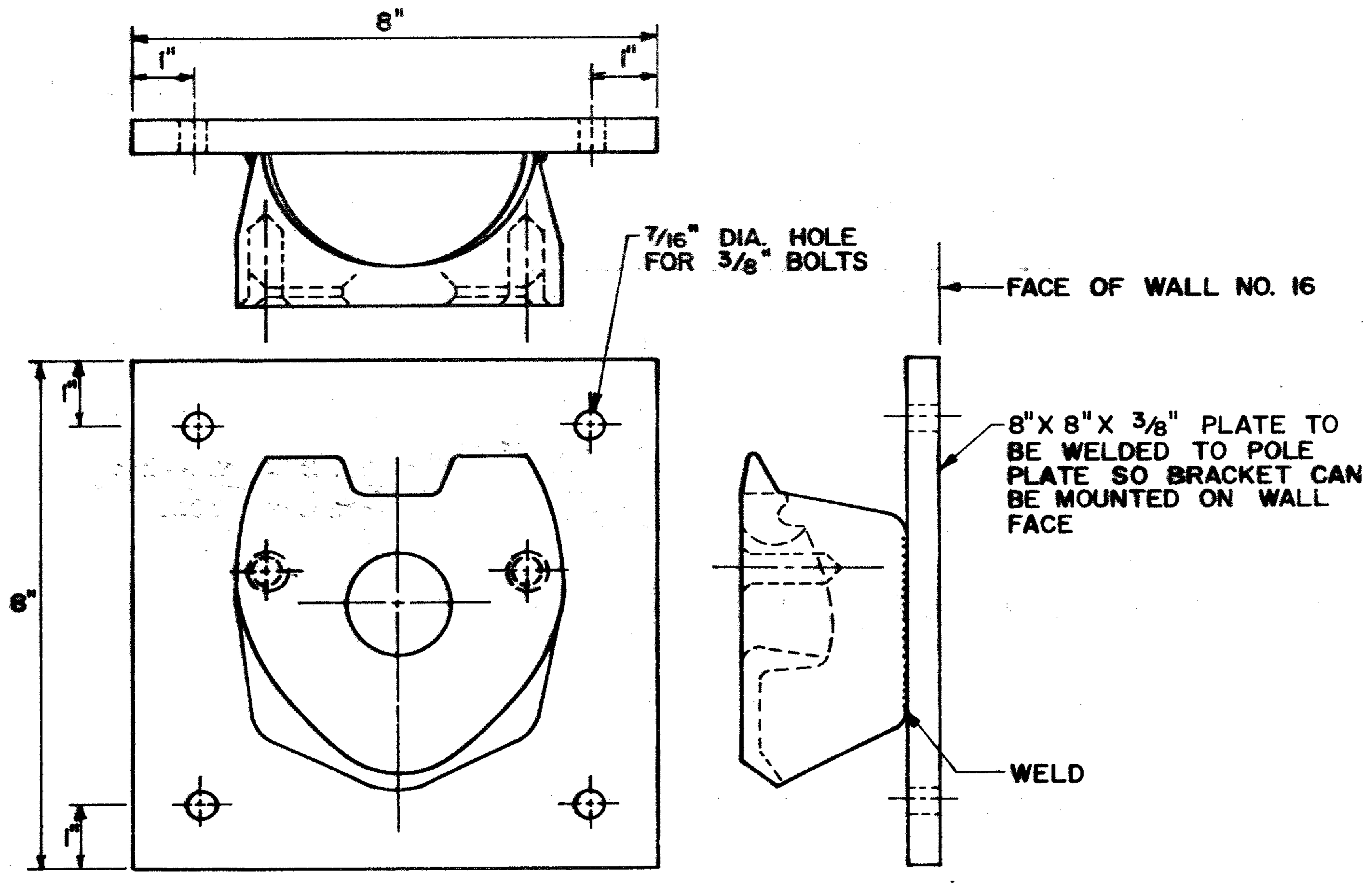
CONTROL CENTER CL22

CIRCUIT CL22–A NTS

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

219
401

HAMILTON COUNTY
HAM-71-1.30/9.00



MODIFIED POLE PLATE

VARIABLE HEIGHT STANDARDS					
			EXISTING ANCHOR BOLT DATA		
WALL NO.	POLE NO.	LIGHT POLE DESIGN	BOLT CIRCLE DIA.	PROJECTION ABOVE FOUNDATION	SIZE
10	L5–C3	A15B15.7	10"	2 1/4"	1"X40"
10	L5–C4	A15B25	10"	2 1/4"	1"X40"
10	L5–C5	A15B31.5	10"	2 1/4"	1"X40"
15	L5–B1	A15B24.2	11.5"	2 3/4"	1 1/4"X48"
15	L5–B2	A15B32.4	11.5"	2 3/4"	1 1/4"X48"
15	L5–B3	A15B37.8	11.5"	2 3/4"	1 1/4"X48"
28	L6–A5	A10B39.2	11.5"	2 3/4"	1 1/4"X48"
21	L7–A3	A15B37.2	11"	2 5/8"	1"X40"
21	L7–A4	A15B29.5	10.5"	2 5/8"	1"X40"
21	L7–A5	A15B33.6	11"	2 5/8"	1"X40"
22	L7–A7	A15B15.7	8"	2"	3/4"X30"
23	L7–A8	A15B15.4	8"	2"	3/4"X30"
23	L7–A9	A15B17.4	8"	2"	3/4"X30"
41	L8–A11	A15B26.2	10"	2 1/4"	1"X40"
41	L8–A12	A15B32.4	11"	2 5/8"	1"X40"
41	L8–A13	A15B34	11"	2 5/8"	1"X40"
34	L9–A4	A10B39.2	11"	2 5/8"	1 1/4"X48"
34	L9–A5	A10B29.2	11"	2 5/8"	1 1/4"X48"
24	L9–C8	A15B20.4	8"	2"	3/4"X30"
25	L9–C9	A15B34.2	11"	2 5/8"	1 1/4"X48"
37	L10–B2	A10B40	11"	2 5/8"	1 1/4"X48"

NOTE: BRACKET ARM UPSWEEP FOR EACH VARIABLE HEIGHT STANDARD SHALL MATCH ADJACENT STANDARDS.

THESE LIGHT STANDARDS ARE CARRIED TO THE SUB-SUMMARY SHEETS AS VARIABLE HEIGHT STANDARDS.

CONTROL CENTER DATA

POWER SERVICE	CONNECTED LOAD KVA	SERVICE ENTRANCE CONDUCTOR SIZE–AWG	TYPE OF SERVICE	ENCLOSURE RATING AMPS	CIRCUIT NUMBER	CIRCUIT LOAD AMPS	CIRCUIT FUSE SIZE AMPS	MAINTAINING AGENCY
CL1	4.76	#4	120/240 VOLT, 3W, 1ø GROUNDED NEUTRAL	30	A	8.1	30	CITY OF CINCINNATI
					B	11.7	30	
CL3	–	#4	120/240 VOLT, 3W, 1ø GROUNDED NEUTRAL	30	A	EXISTING	30	CITY OF CINCINNATI
					B	EXISTING	30	
L2	9.40	#4	120/240 VOLT, 3W, 1ø GROUNDED NEUTRAL	60	A	20.72	30	ODOT
					B	18.43	30	
L5	15.37	#2	120/240 VOLT, 3W, 1ø GROUNDED NEUTRAL	100	A	31.53	60	ODOT
					B	15.7	30	
					C	16.79	30	
L6	6.19	#4	120/240 VOLT, 3W, 1ø GROUNDED NEUTRAL	60	A	25.77	60	ODOT
L7	4.32	#4	120/240 VOLT, 3W, 1ø GROUNDED NEUTRAL	30	A	17.97	30	ODOT
CL7	–	#4	120/240 VOLT, 3W, 1ø GROUNDED NEUTRAL	30	A	EXISTING	30	CITY OF CINCINNATI
L8	5.7	#4	120/240 VOLT, 3W, 1ø GROUNDED NEUTRAL	60	A	23.75	30	ODOT
CL8	–	#4	120/240 VOLT, 3W, 1ø GROUNDED NEUTRAL	30	A	EXISTING	30	CITY OF CINCINNATI
L9	16.78	#2	120/240 VOLT, 3W, 1ø GROUNDED NEUTRAL	100	A	30.49	60	ODOT
					B	23.81	30	
					C	16.22	30	
L10	7.73	#4	120/240 VOLT, 3W, 1ø GROUNDED NEUTRAL	60	A	19.83	30	ODOT
					B	12.36	30	
CL10	7.41	#4	120/240 VOLT, 3W, 1ø GROUNDED NEUTRAL	60	A	30.87	60	CITY OF CINCINNATI
L11	7.45	#4	120/240 VOLT, 3W, 1ø GROUNDED NEUTRAL	60	A	8.24	30	ODOT
					B	9.27	30	
					C	13.54	30	
CL11	2.09	#4	120/240 VOLT, 3W, 1ø GROUNDED NEUTRAL	30	A	8.7	30	CITY OF CINCINNATI
L21	33.07	#2	480 VOLT, 2W, 1ø GROUNDED NEUTRAL	100	A	18.8	30	ODOT
					B	50.1	100	
CL21	1.49	#4	120/240 VOLT, 3W, 1ø GROUNDED NEUTRAL	30	A	6.18	30	HAMILTON COUNTY
L22	20.54	#4	480 VOLT, 2W, 1ø GROUNDED NEUTRAL	60	A	16.75	30	ODOT
					B	26.04	60	
CL22	2.68	#4	480 VOLT, 2W, 1ø GROUNDED NEUTRAL	30	A	5.57	30	VILLAGE OF SILVERTON

BRUNING 44-232 75653

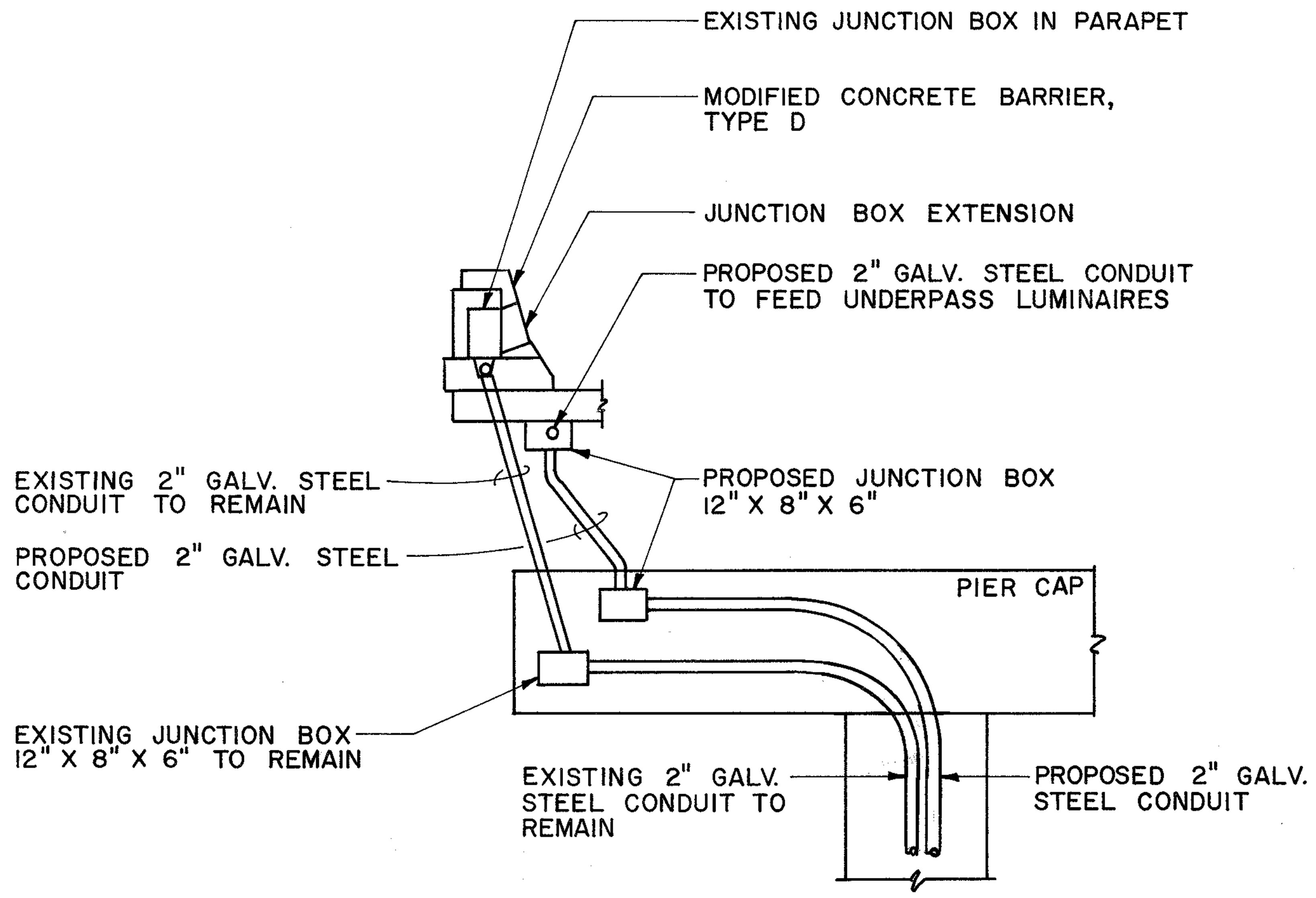
KORDA/NEMETH ENGINEERING, INC.

DETAILS

NOTE:
THE PHOTOCELL TO CONTROL STATE CIRCUITS IS NOT REQUIRED FOR POWER SERVICE "CL1".

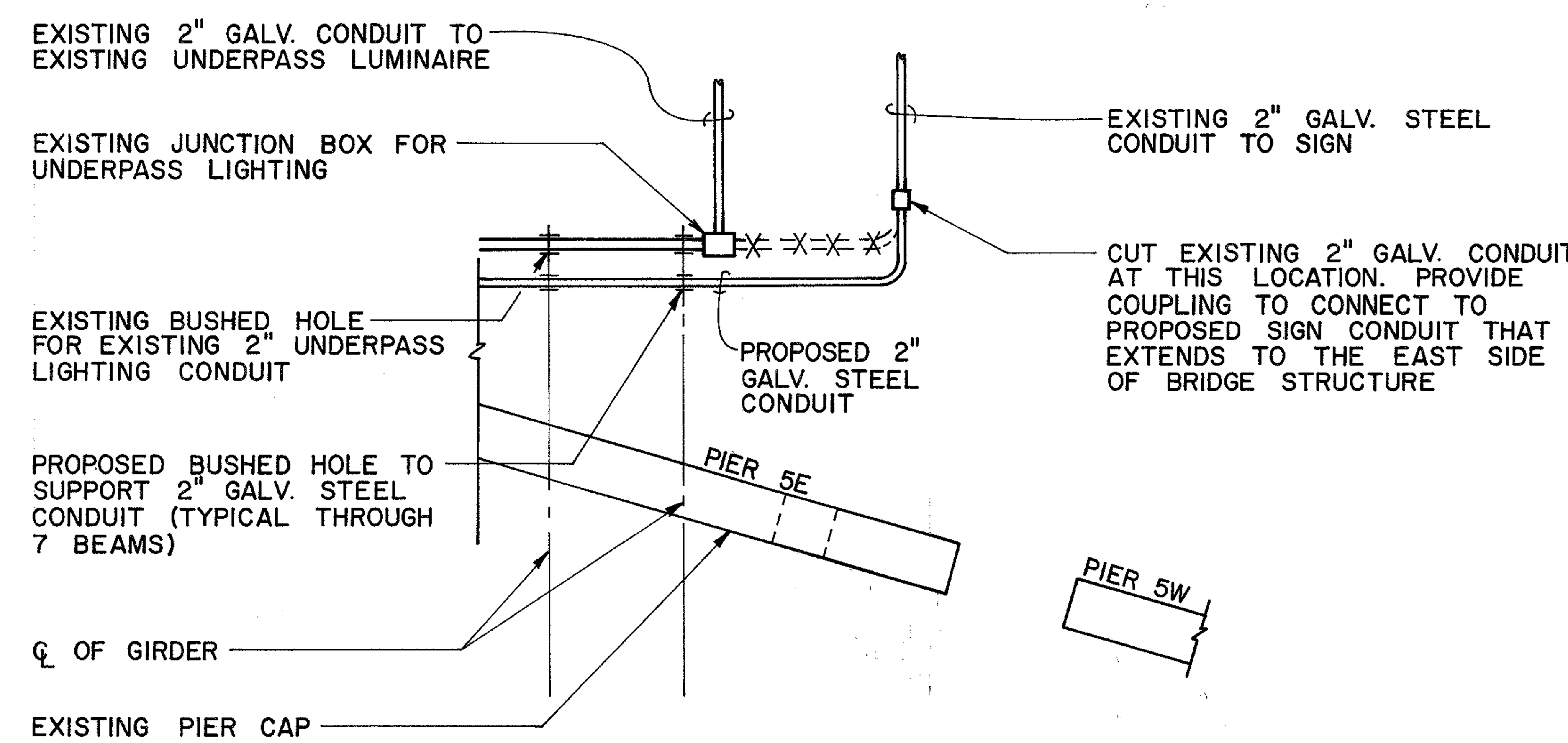
CODED NOTES
1. PHOTOCELL (AS REQUIRED). FACE SENSOR NORTH.
2. MAINTENANCE RESPONSIBILITY SHALL BE PERMENANTLY MARKED ON FACE OF J.B. FOR EACH PHOTOCELL

MODIFICATION TO EXISTING CIRCUIT RACEWAY "A"
DETAILS



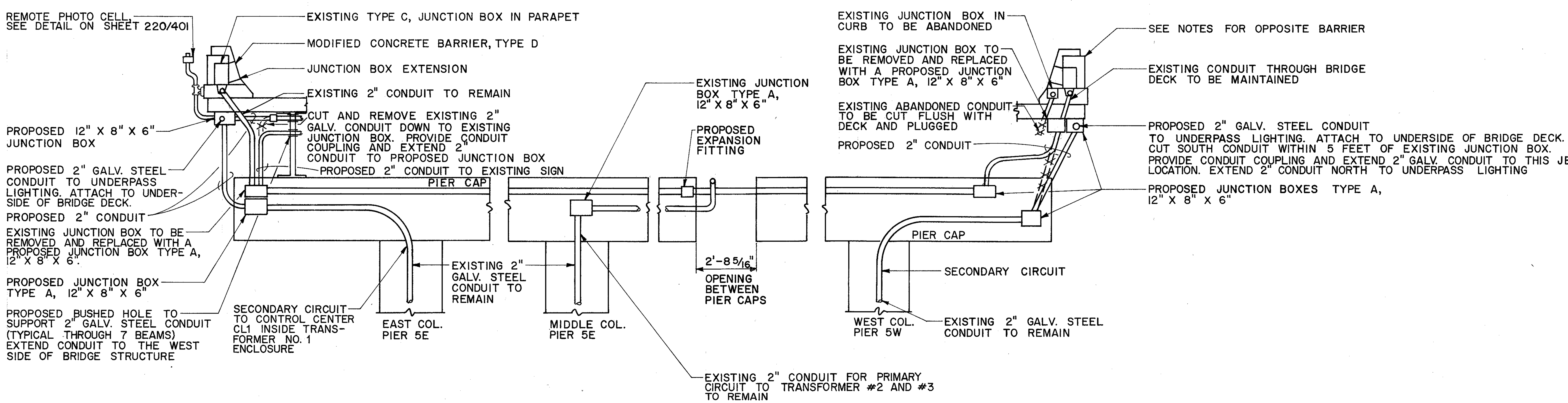
DETAIL OF CONDUIT ROUTING UP TO BRIDGE STRUCTURE

TYPICAL OF CIRCUITS L10, LC10, L11 & CL11
(OPPOSITE HAND SIMILAR)



ENLARGED PLAN

WEST SIDE OF BRIDGE STRUCTURE
HAM-71-0154R

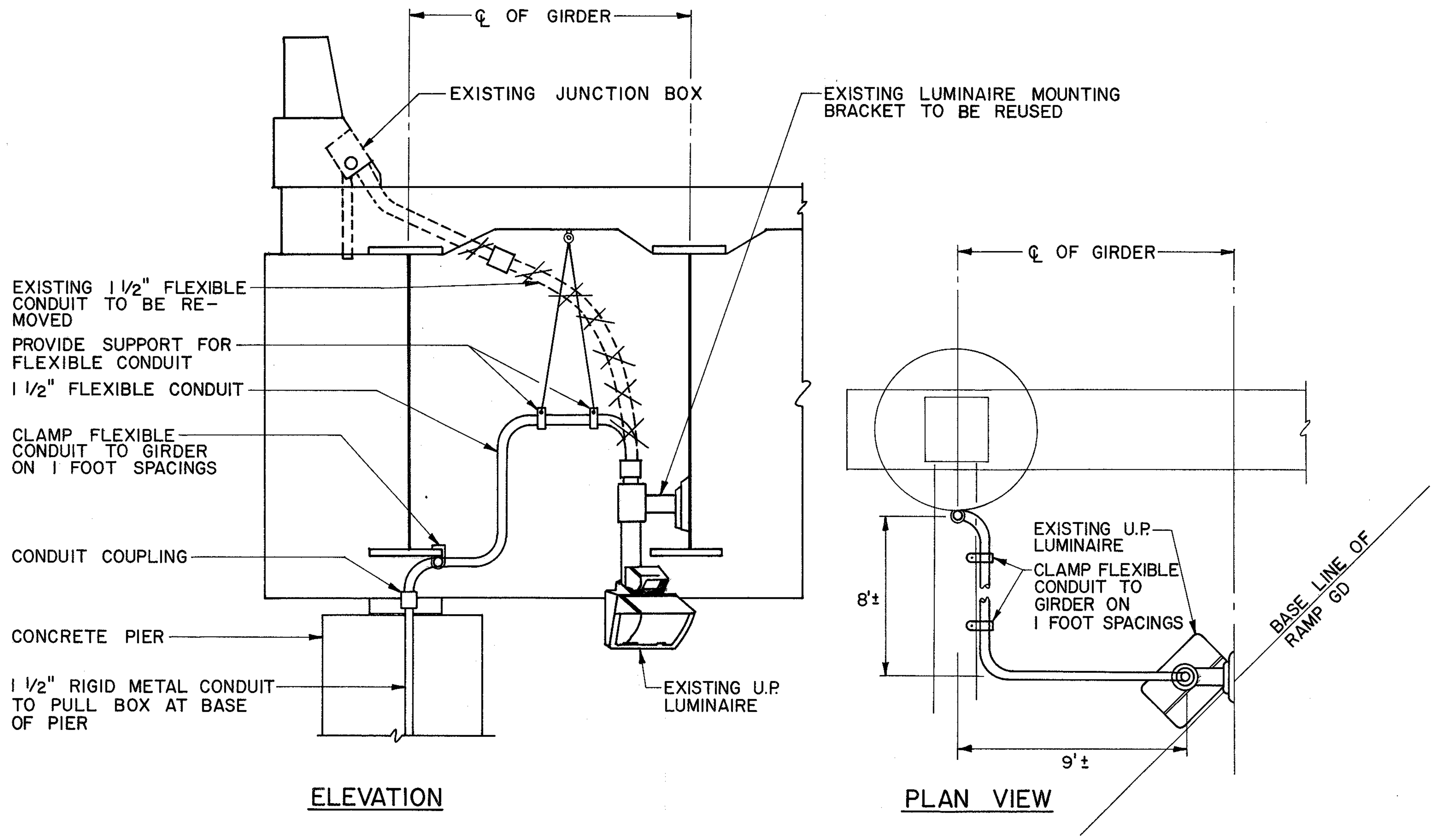


NOTES:

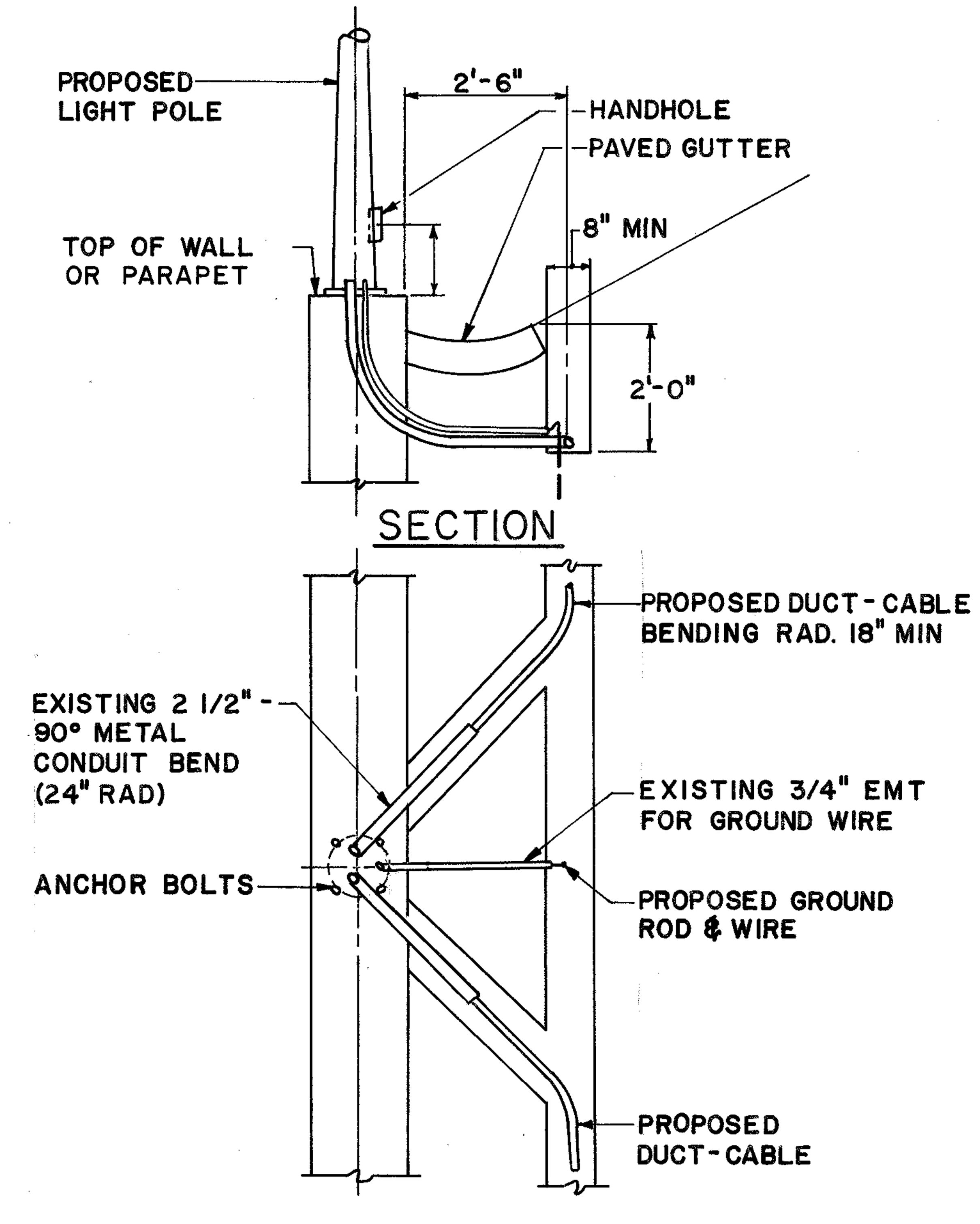
1. ATTACH JUNCTION BOXES TO PIER CAP WITH 4-1/4" EXPANSION BOLTS.
2. ATTACH CONDUITS TO PIER CAPS AND COLUMNS WITH GALV. STEEL PIPE STRAPS AND EXPANSION BOLTS AT APPROX. SIX FOOT INTERVALS.

PARTIAL ELEVATION OF PIERS 5E & 5W (LOOKING SOUTH)

HAM-71-0154 R/L

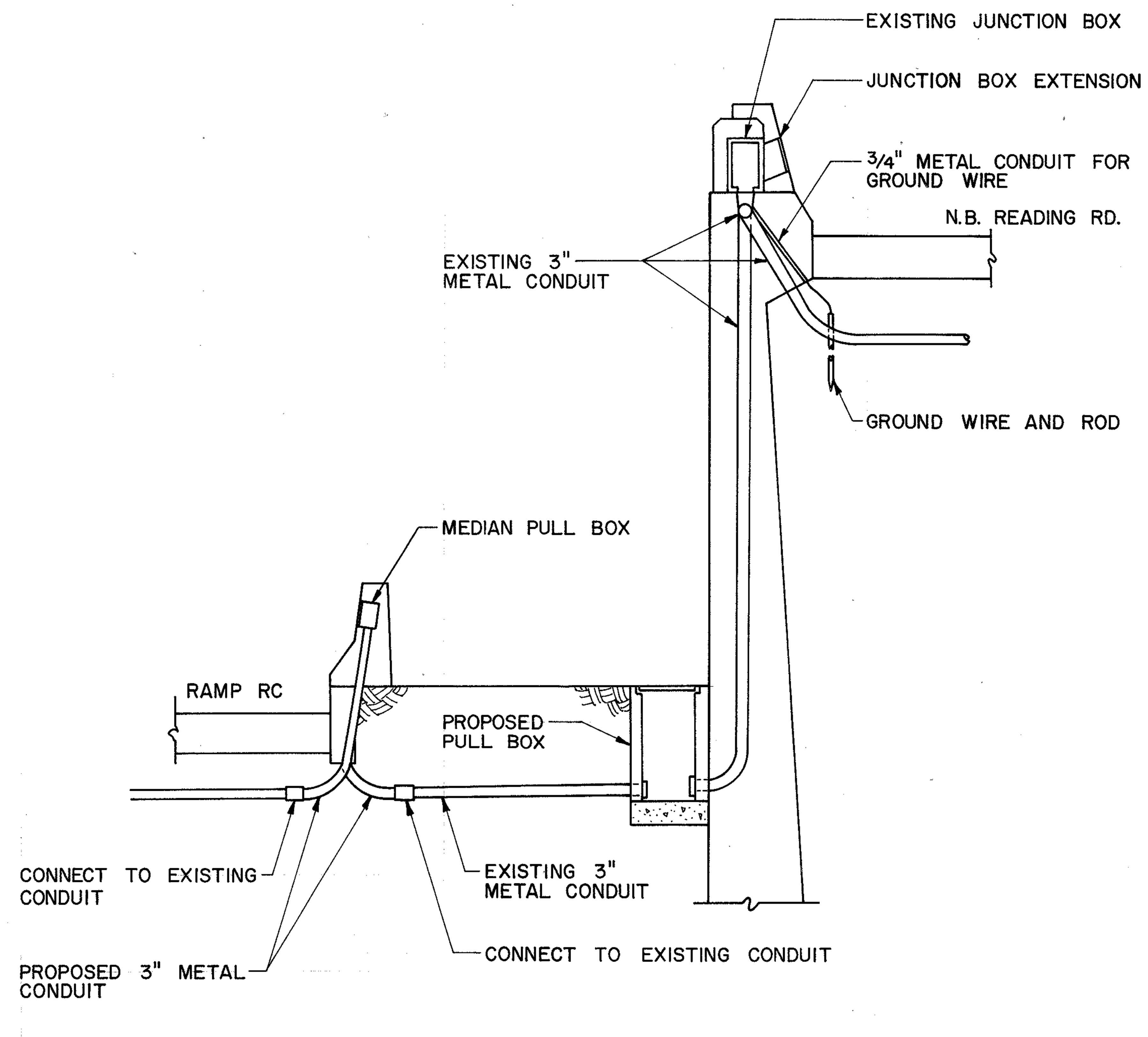


UNDERPASS LIGHTING AT 159+66.5 LT RAMP GD

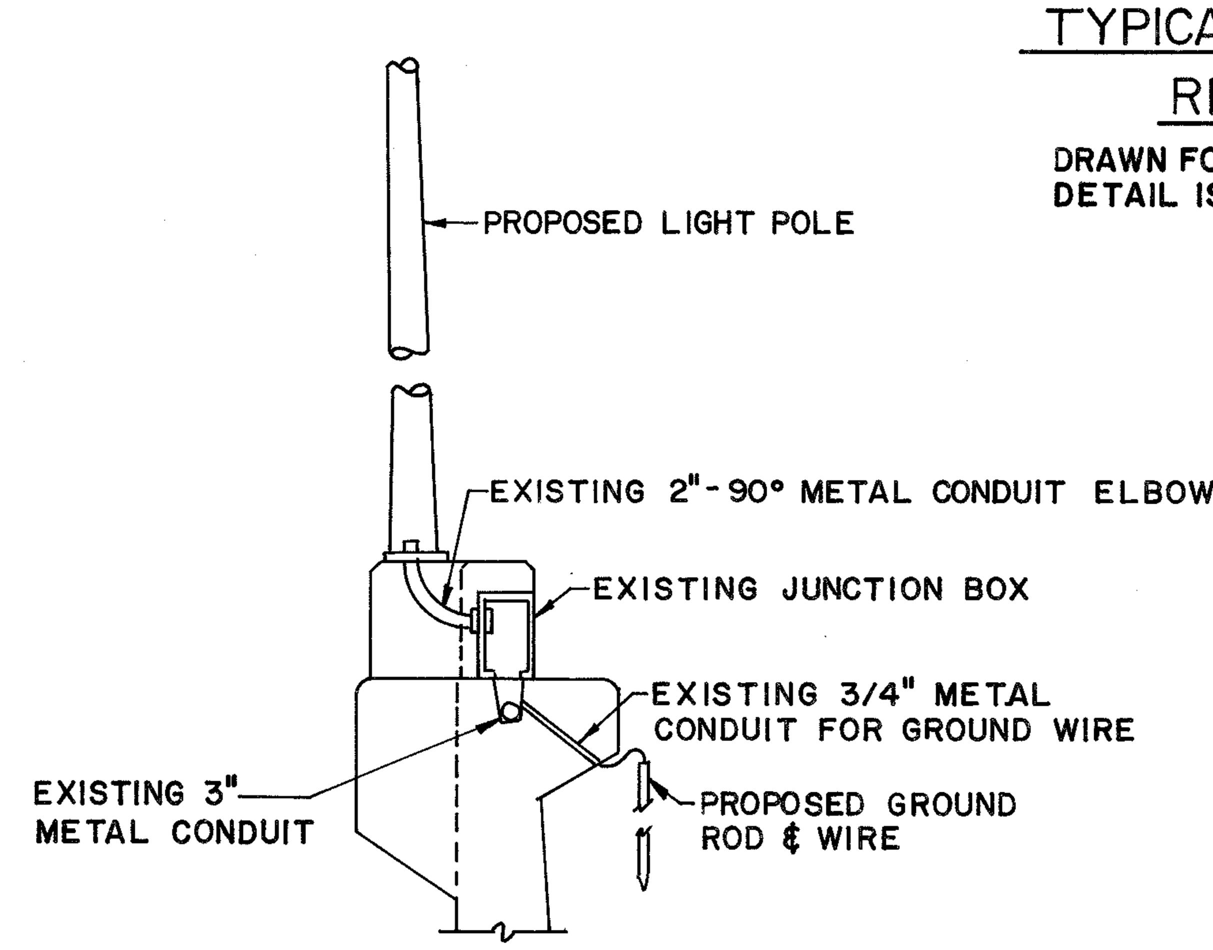


TYPICAL INSTALLATION AT RETAINING WALLS

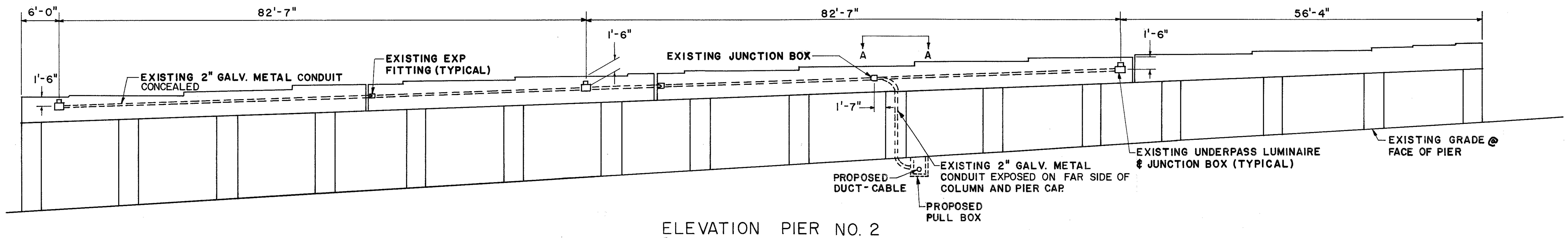
DRAWN FOR DITCH SECTION BEHIND WALL
DETAIL IS SAME WHEN DITCH IS OMITTED



SECTION THRU RETAINING WALL NO. 31



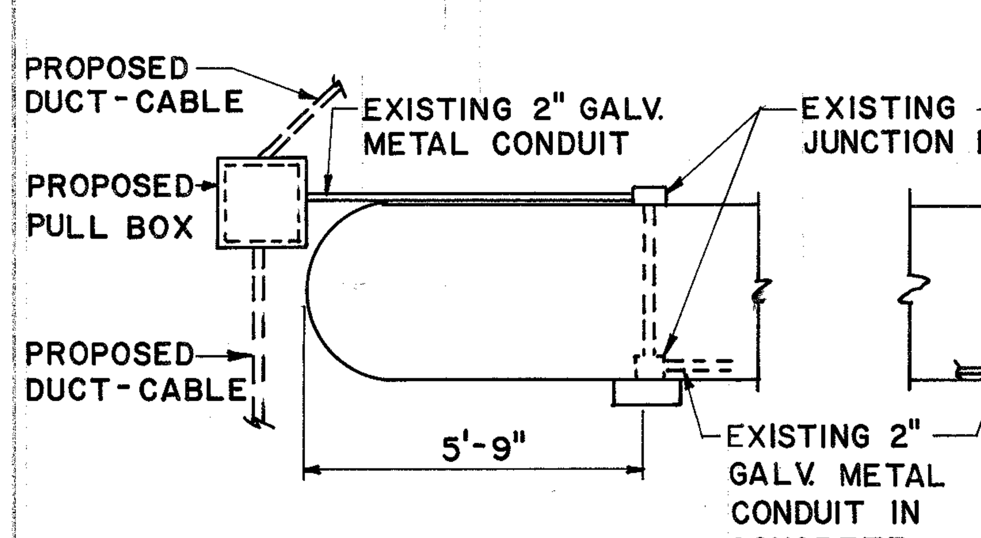
TYPICAL INSTALLATION AT RETAINING WALLS WITH INTEGRAL CURB



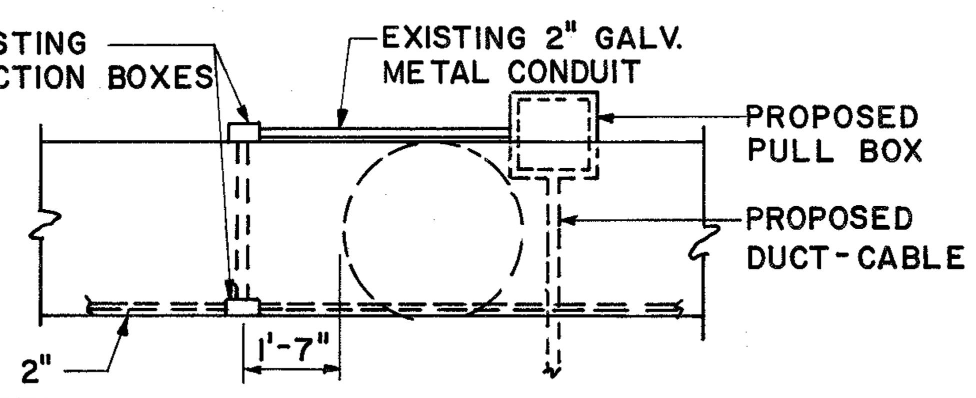
ELEVATION PIER NO. 2
(LOOKING NORTH)

ELEVATION PIER NO. 1
(LOOKING SOUTH)

NOTE:
1. ALL JUNCTION BOXES ARE EXISTING 6" x 6" x 6" GALV. CAST IRON WITH PLAIN COVER, NEOPRENE GASKET, FLUSH STAINLESS STEEL COVER SCREWS, AND SHALL REMAIN UNLESS NOTED OTHERWISE (TYPICAL FOR ALL UNDERPASSES).
2. ALL CONDUITS & FITTINGS SHALL REMAIN UNLESS NOTED OTHERWISE (TYPICAL FOR ALL UNDERPASSES).



PLAN B-B



PLAN A-A

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

224
401

HAMILTON COUNTY
HAM-71-1.30/9.00

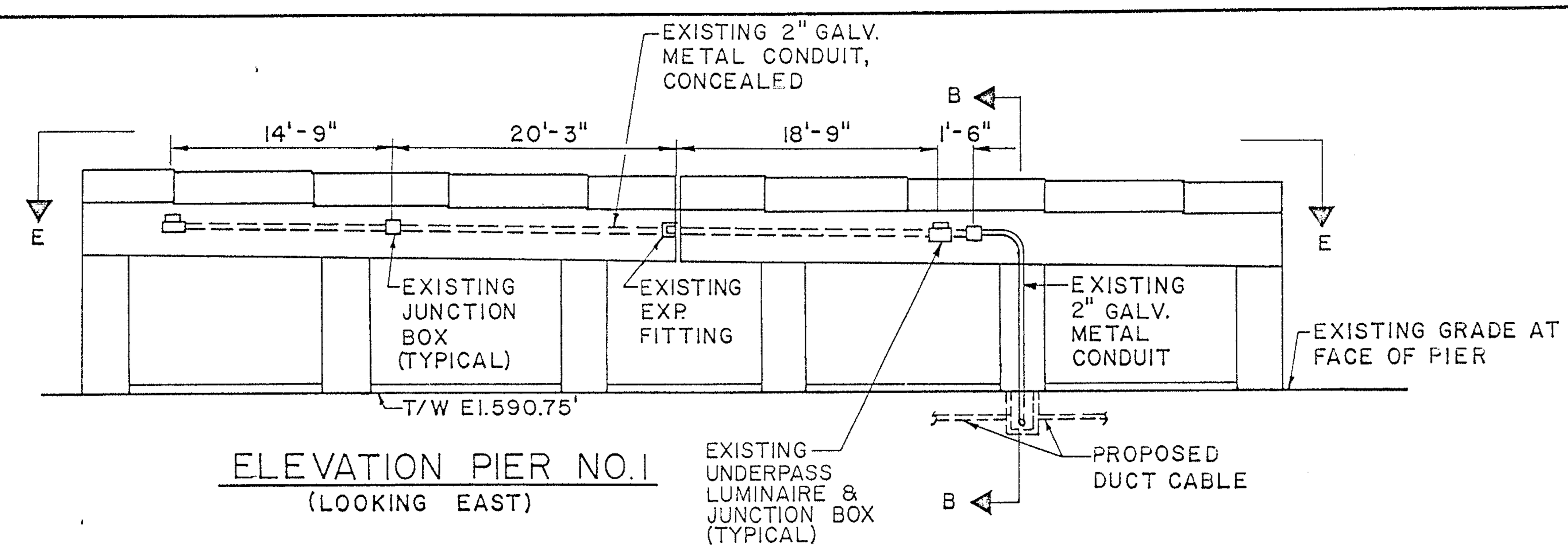
UNDERPASS LIGHTING

KORDA/NEMETH ENGINEERING, INC.

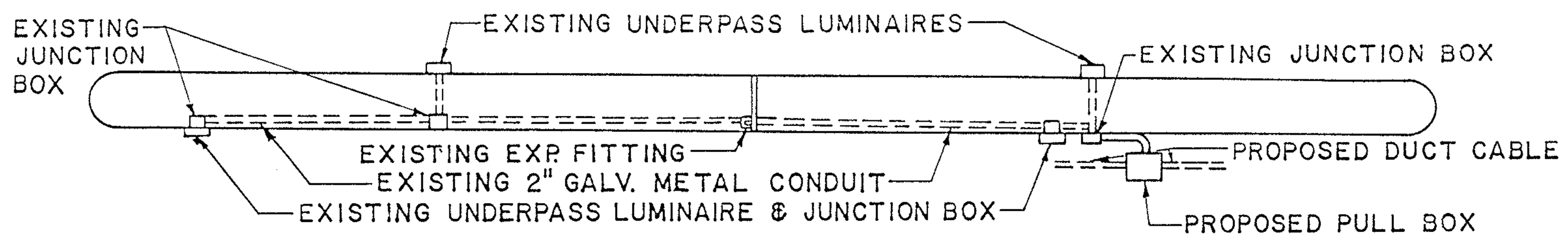
BRIDGE NO. HAM-22-0145

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

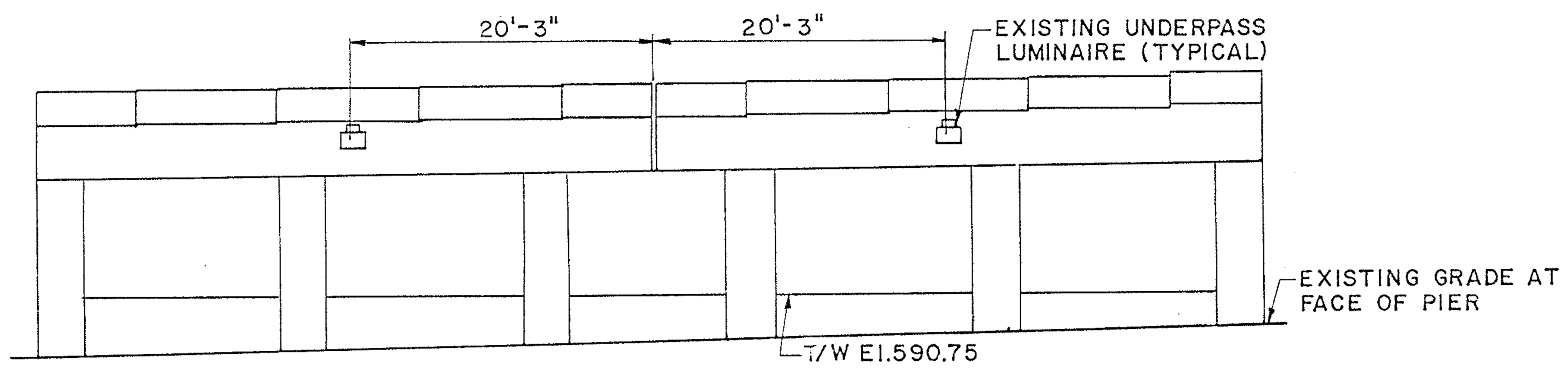
HAMILTON COUNTY
HAM-71-1.30/9.00



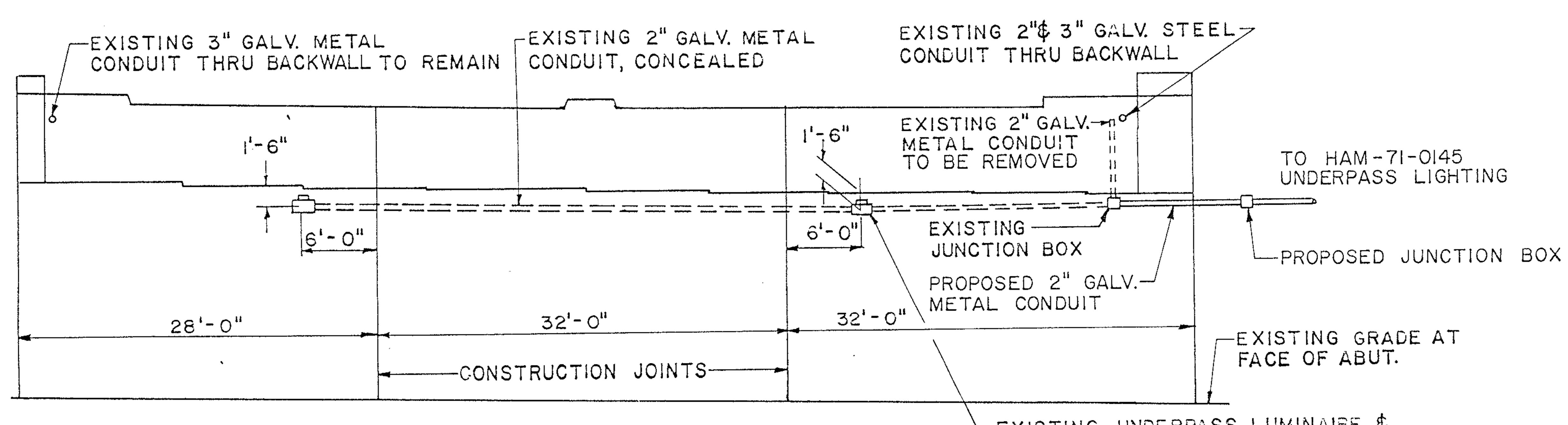
ELEVATION PIER NO. 1
(LOOKING EAST)



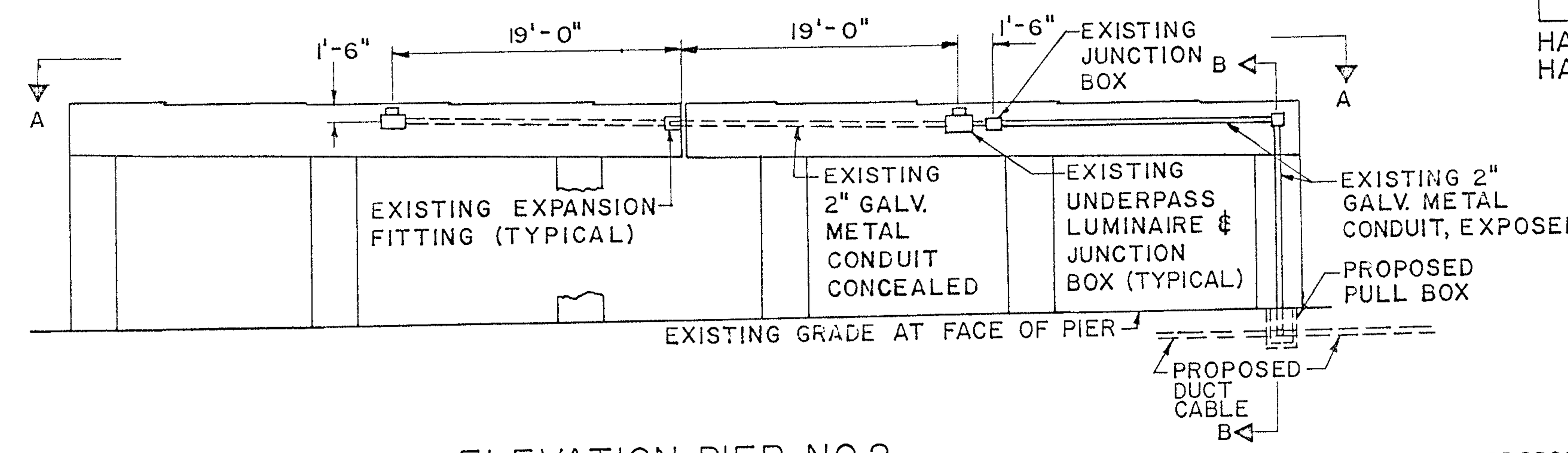
PLAN E-E



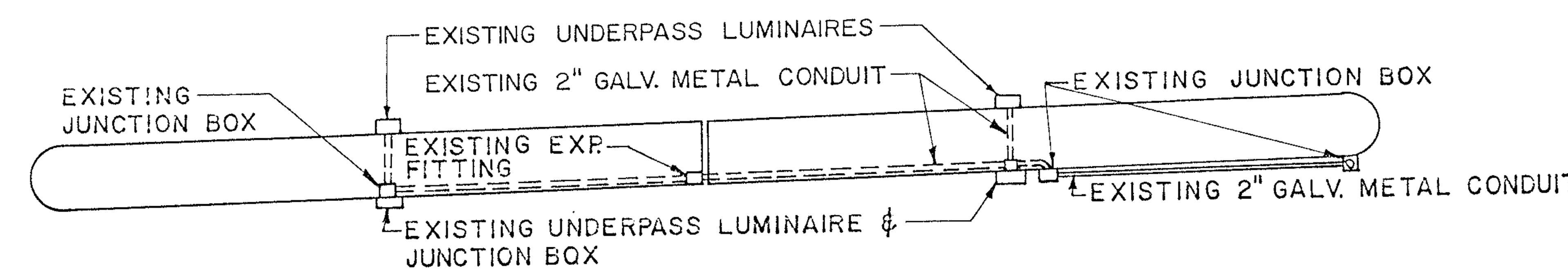
ELEVATION PIER NO. 1
(LOOKING WEST)

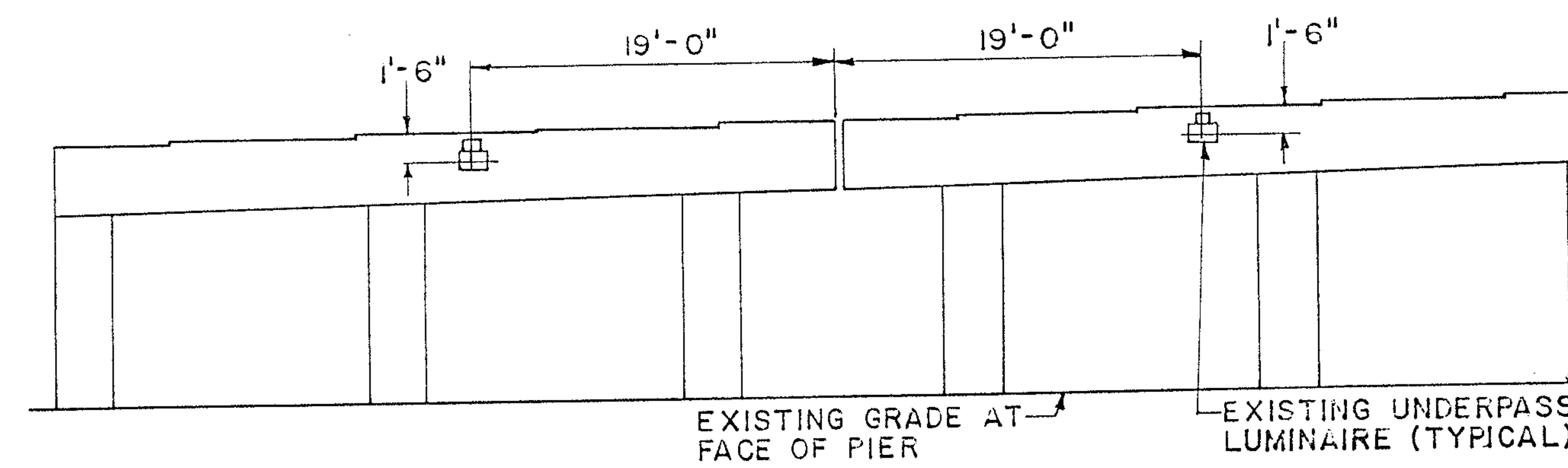


EAST ABUTMENT ELEVATION
(WEST ABUT. IS SIMILAR EXECPT THERE ARE NO UNDERPASS LIGHTS.)

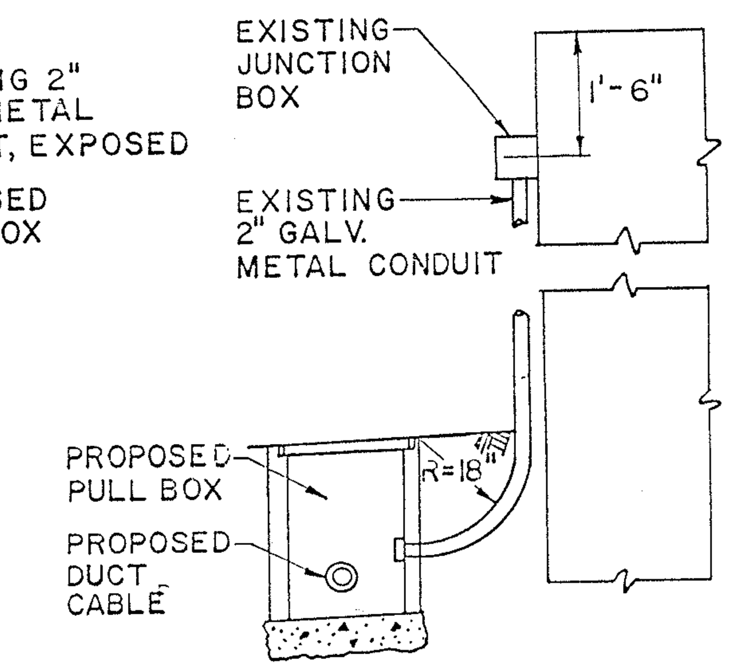


ELEVATION PIER NO. 2
(LOOKING EAST)

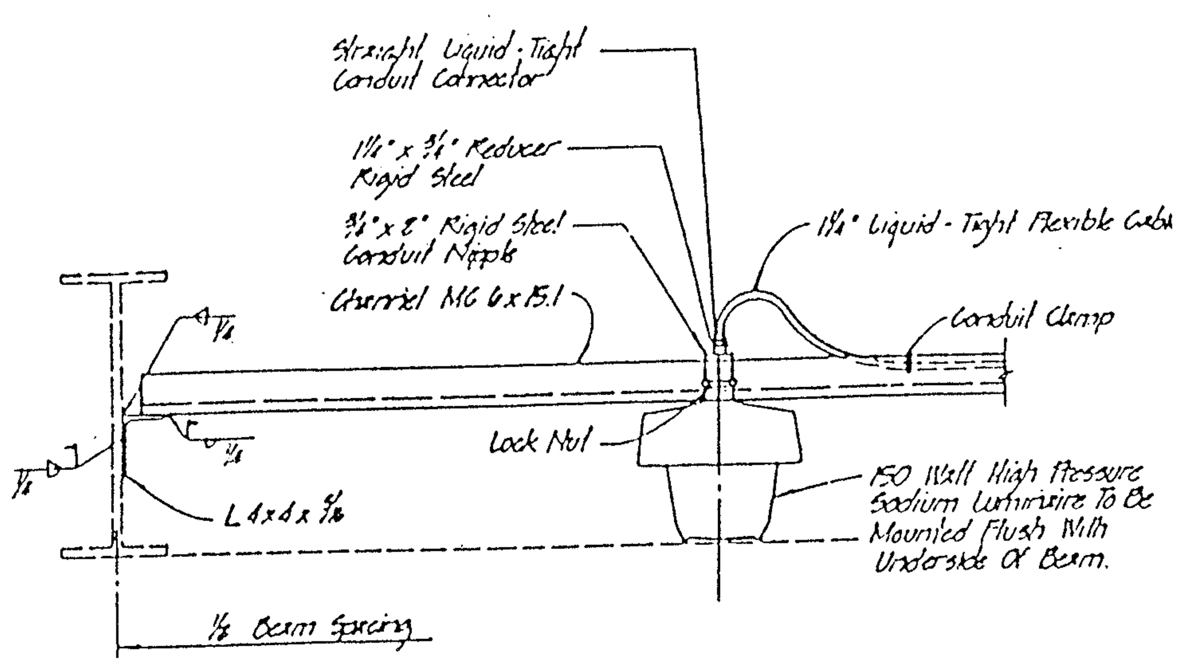




ELEVATION PIER NO. 2
(LOOKING WEST)



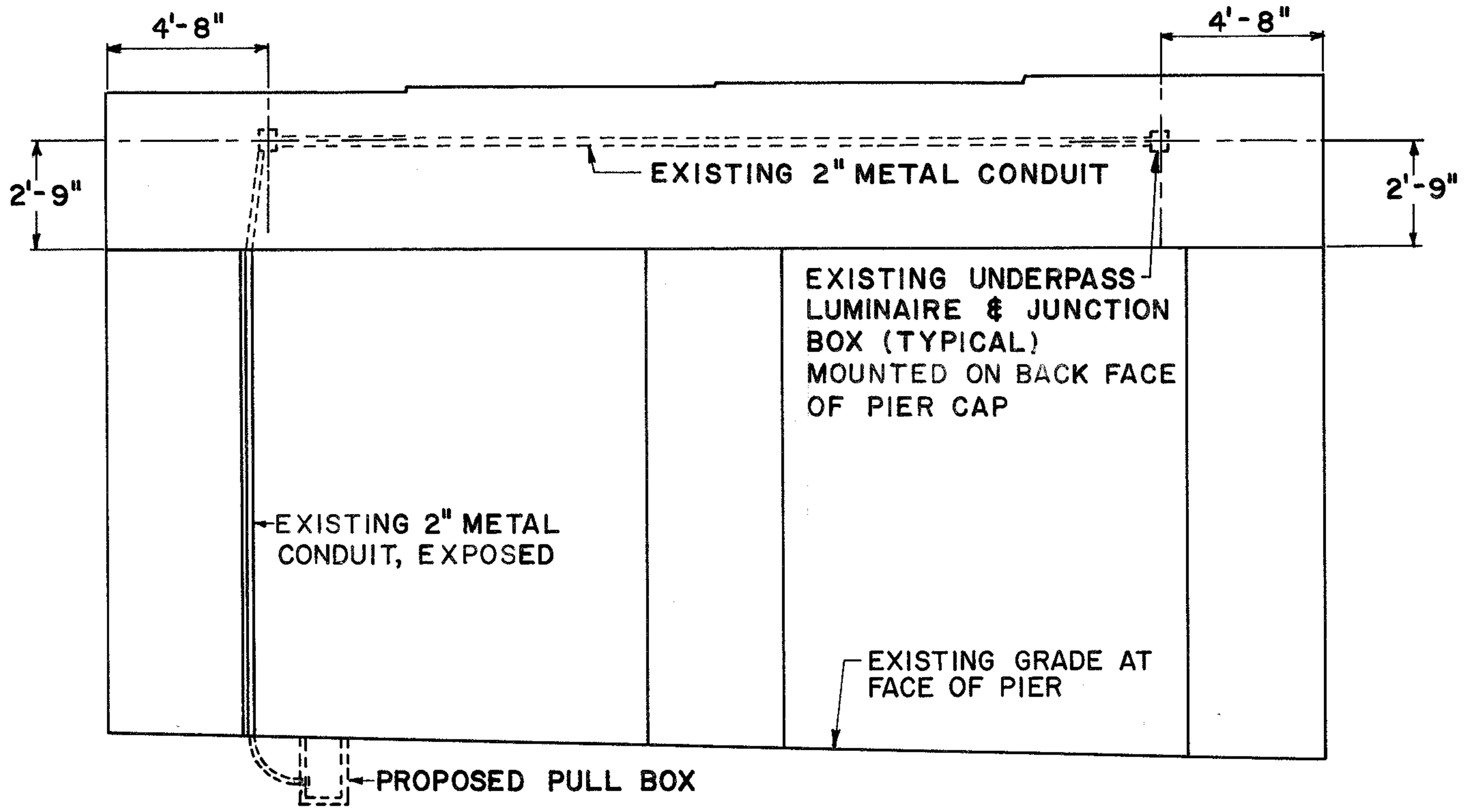
SECTION B-B



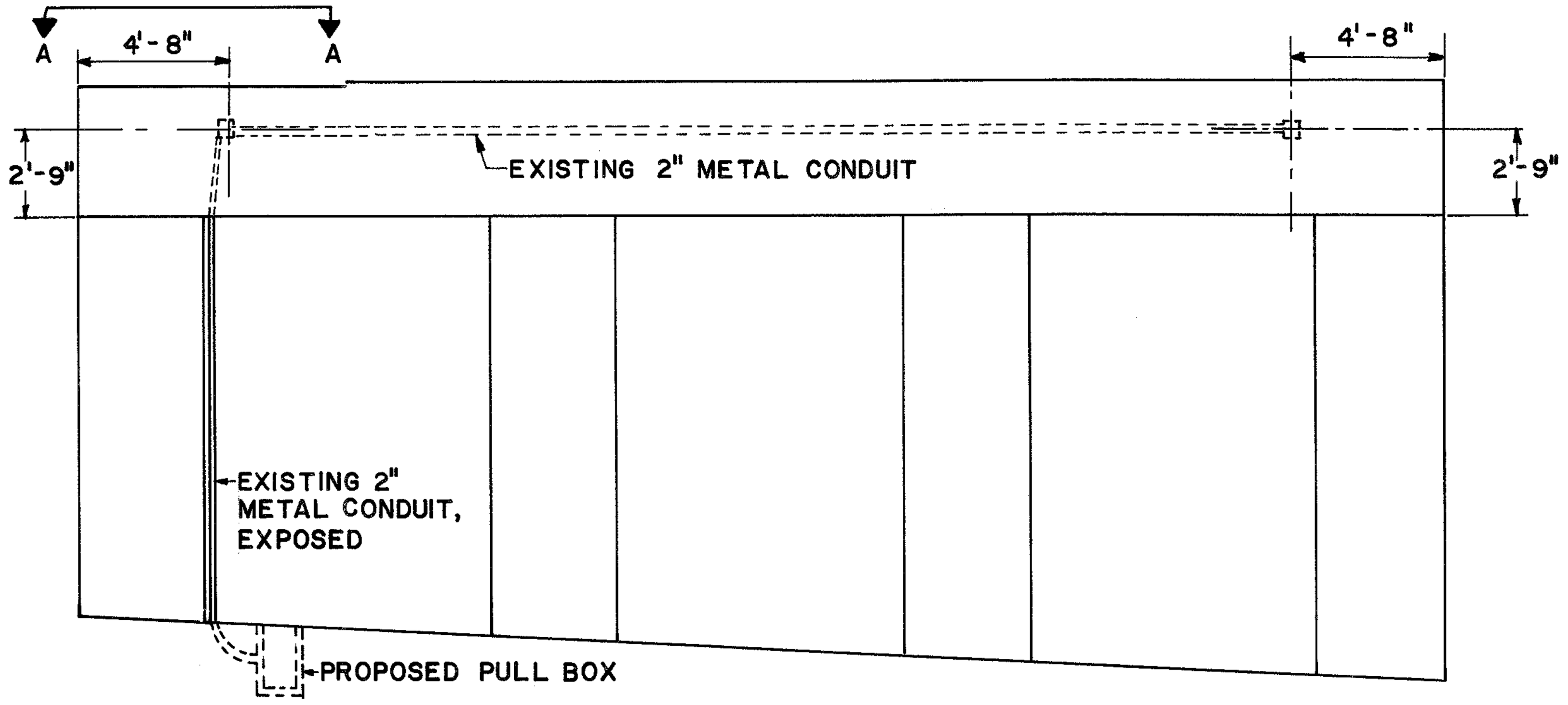
LUMINAIRE ATTACHMENT DETAIL (Typical)

UNDERPASS LIGHTING
BRIDGE NO. HAM-71-0221

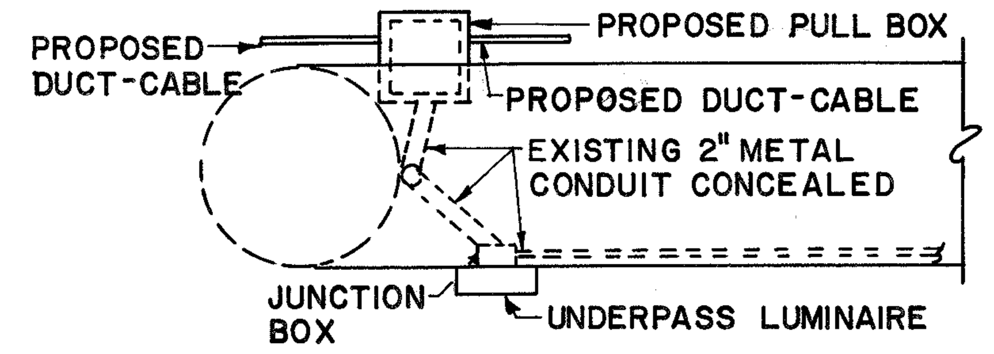
KORDA/NEMETH ENGINEERING, INC.



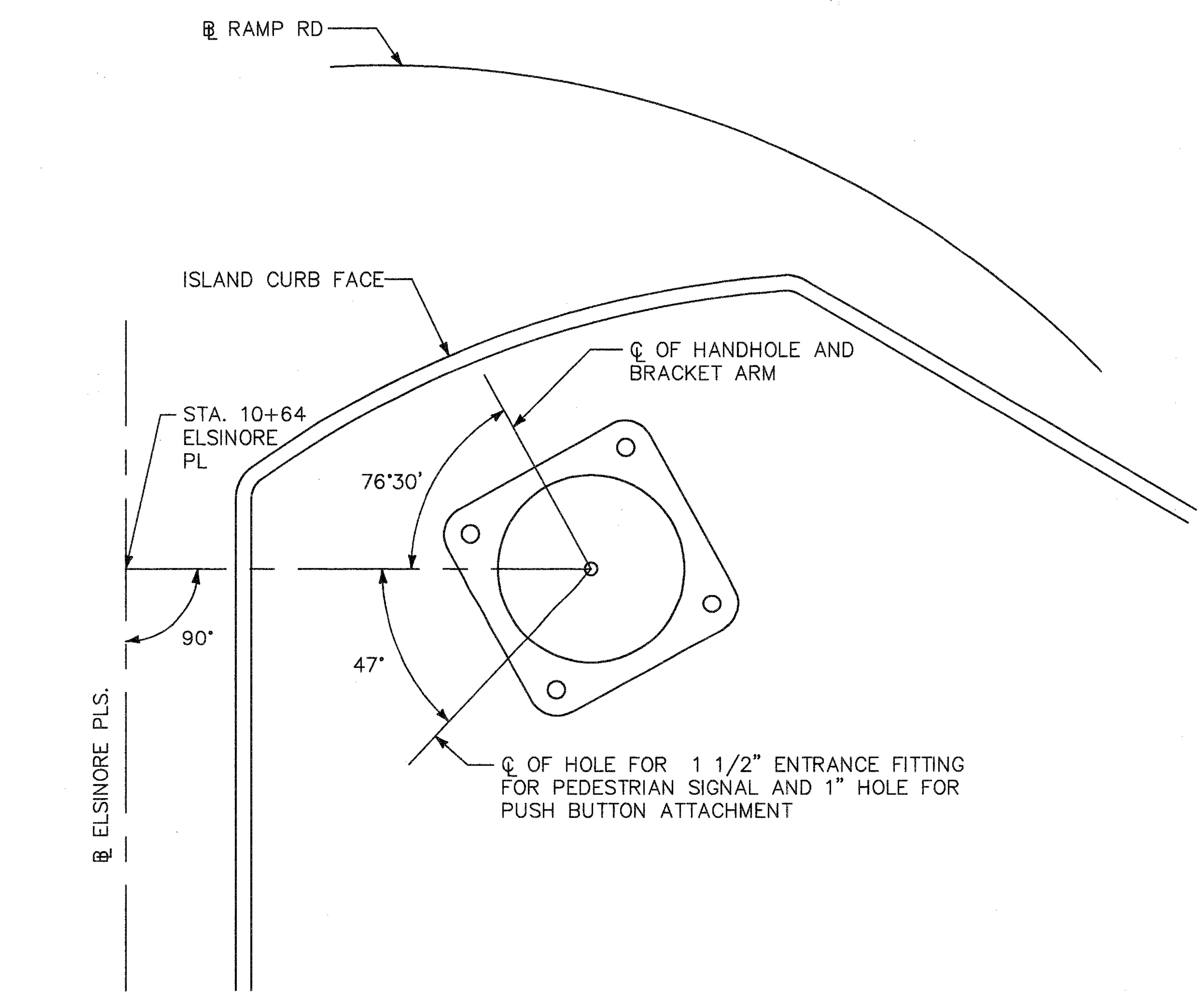
ELEVATION PIER NO I
(LOOKING EAST)
BRIDGE NO. HAM.-71-0228



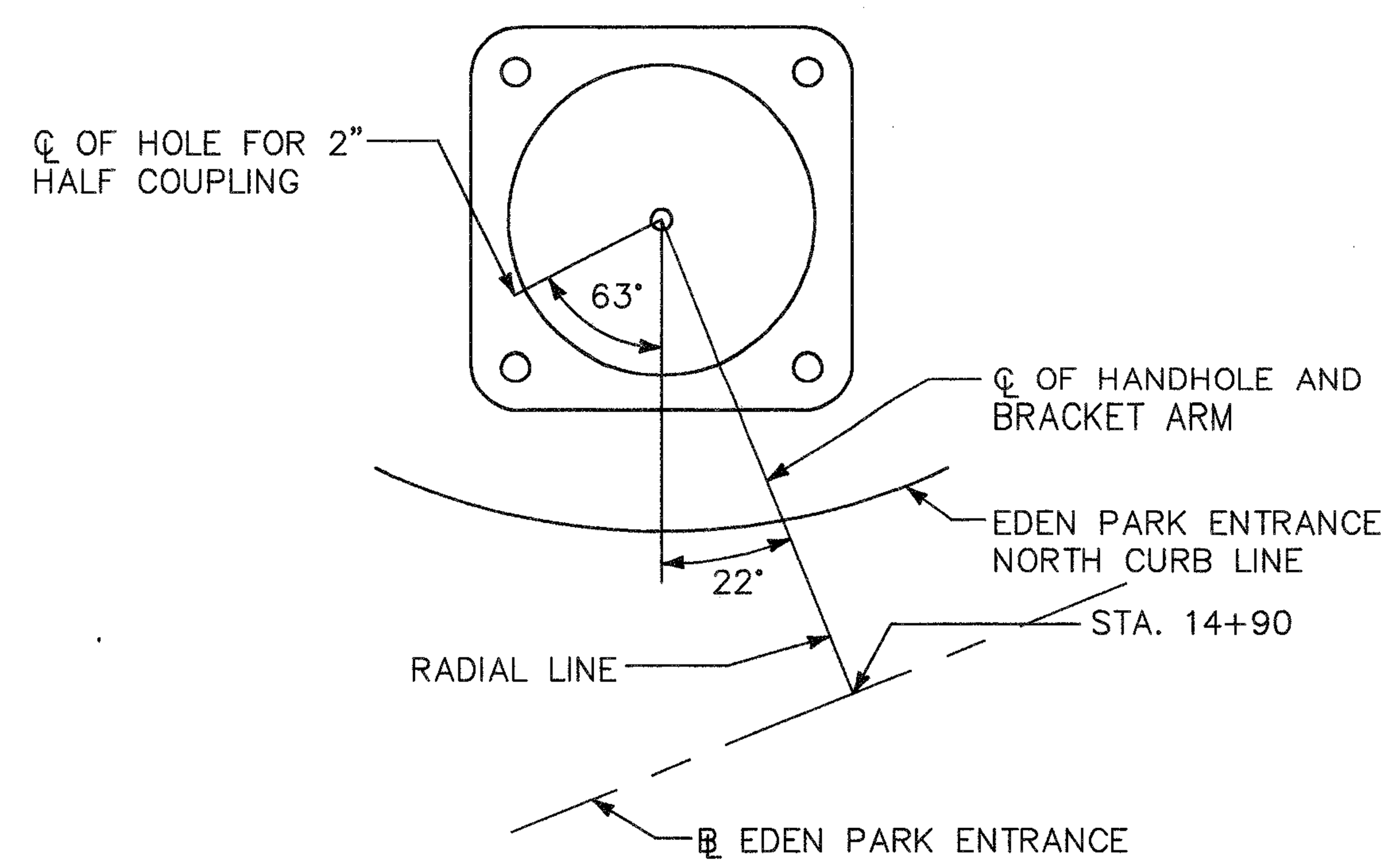
ELEVATION PIER NO. I
(LOOKING EAST)
BRIDGE NO. HAM.-42-0235R



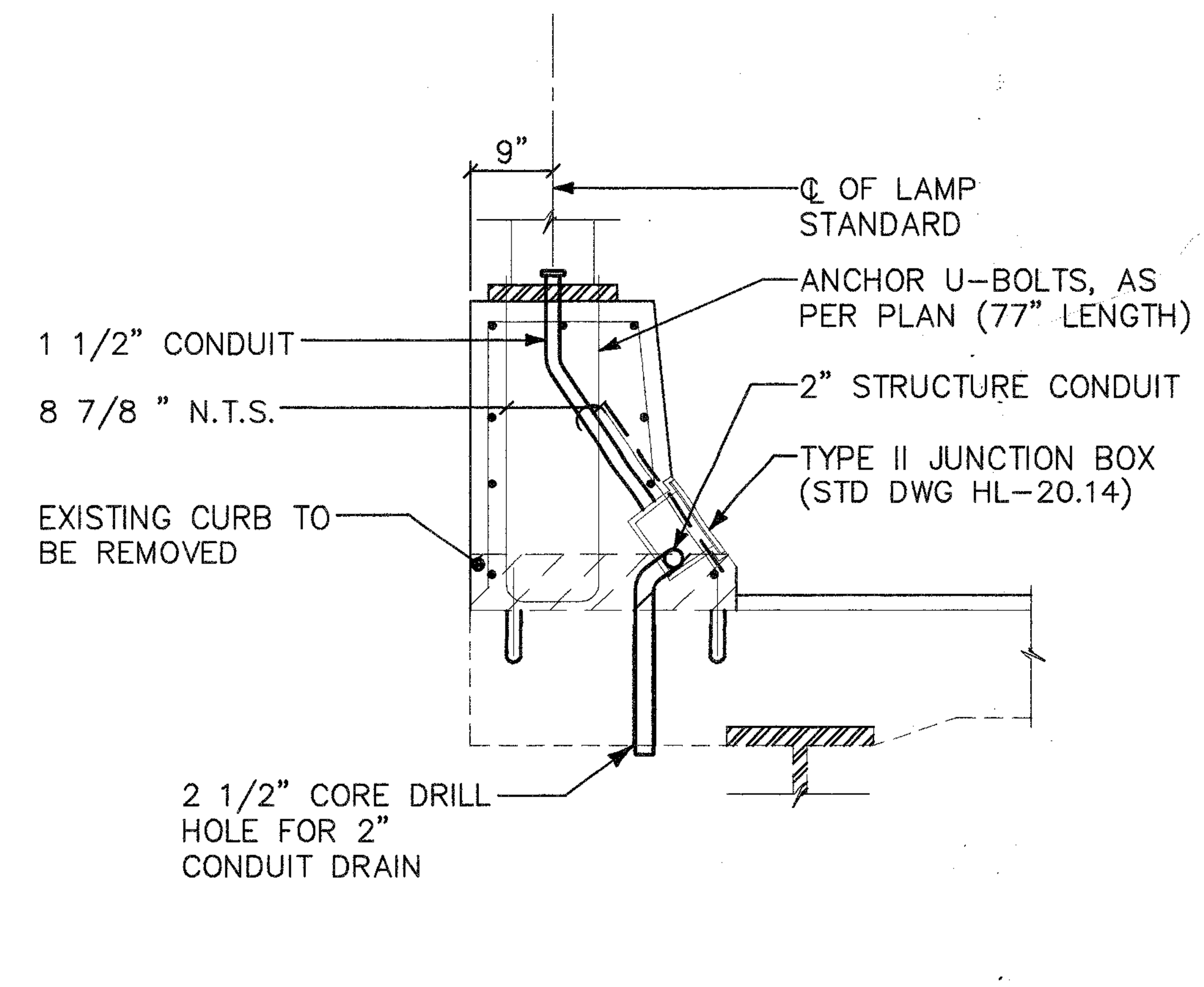
PLAN A-A



POLE L9-B3

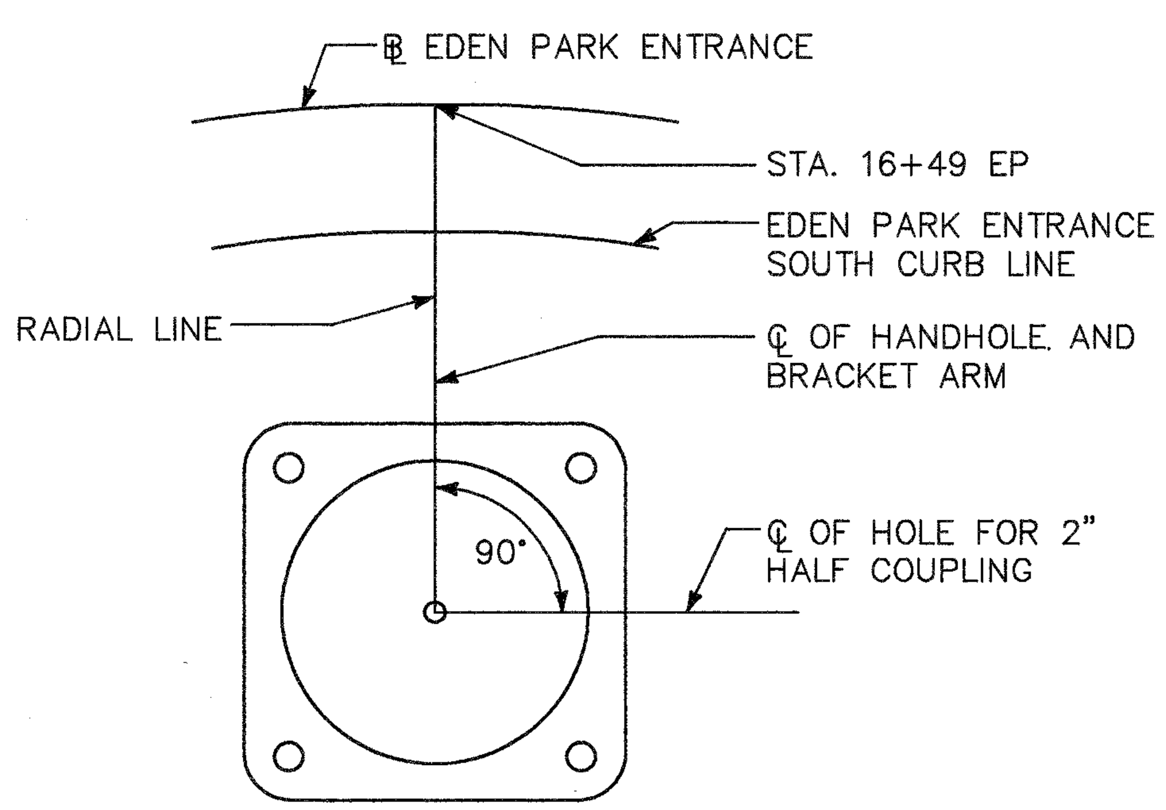


POLE CL10-A4

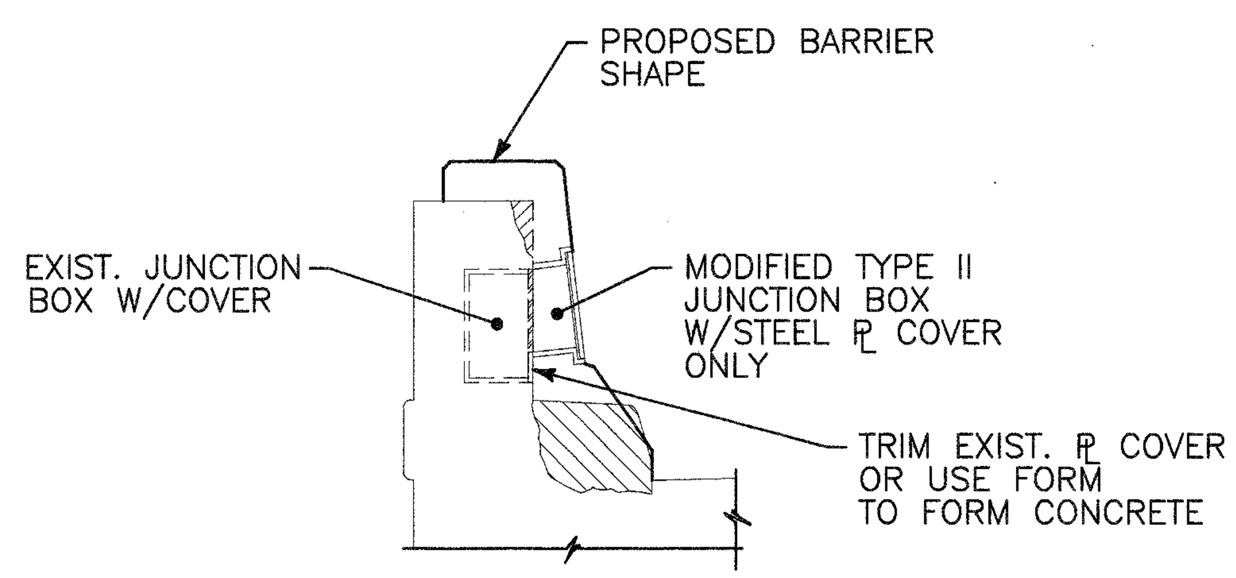


LIGHT POLE PILASTER FOR BRIDGE NO. HAM-71-0154 RT

(BRIDGE NO. HAM-71-0192 IS OPPOSSITE)

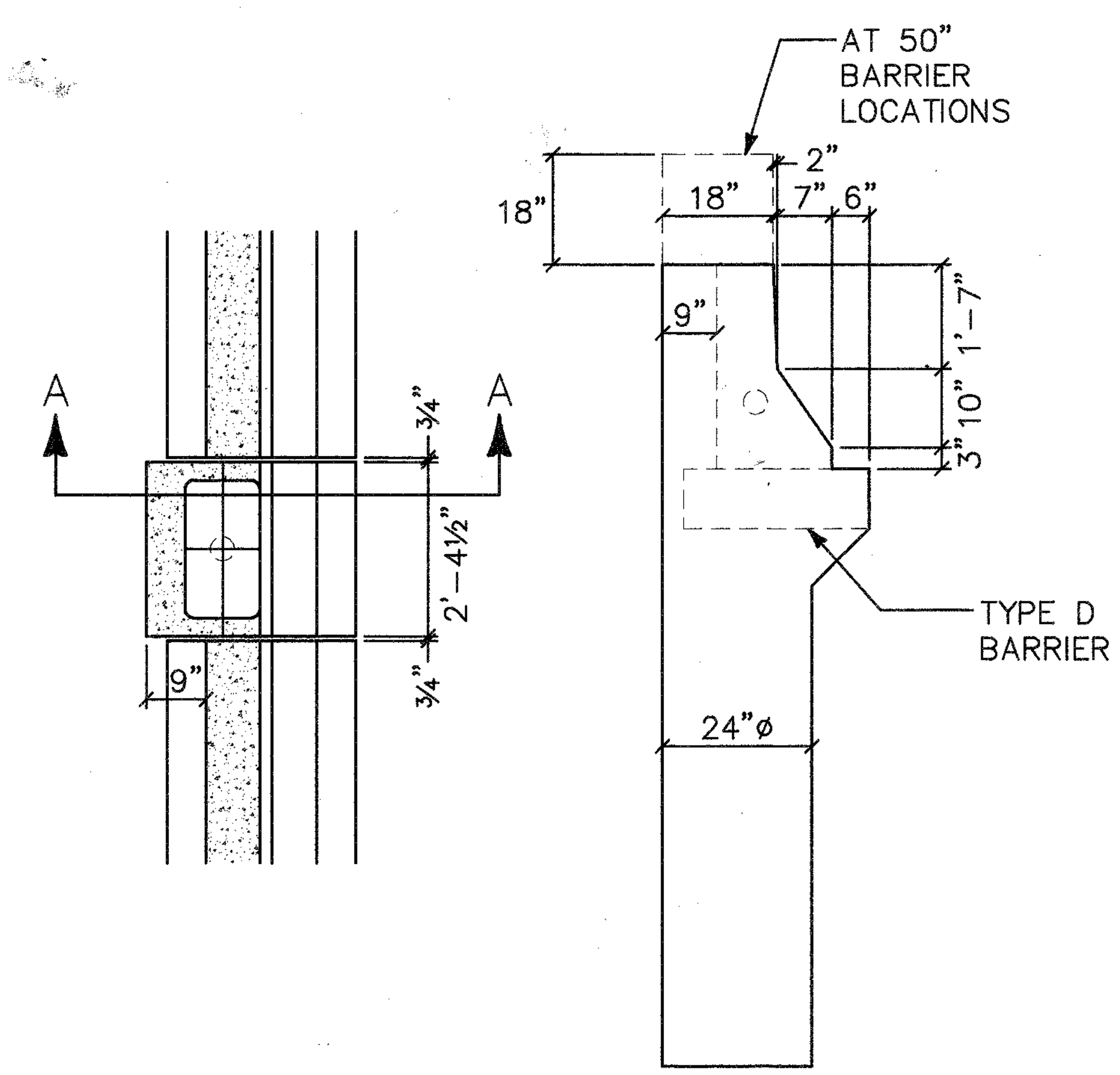


POLE CL10-A7



THE PROPOSED JUNCTION BOX SHALL BE MADE FROM A TYPE II JUNCTION BOX BY REMOVING THE FACE OPPOSITE OF THE OPENING & PORTIONS OF THE WALLS. THE EXIST. JUNCTION BOX SHALL BE ACCESSED THROUGH A NEW OPENING ON THE PROPOSED BARRIER SHAPE'S FACE. THE EXTENSION SHALL BE ATTACHED TO THE FORMWORK FOR PLACEMENT. ALL WORK TO BE INCLUDED IN PRICE BID FOR ITEM SPECIAL "JUNCTION BOX EXTENSION "A"".

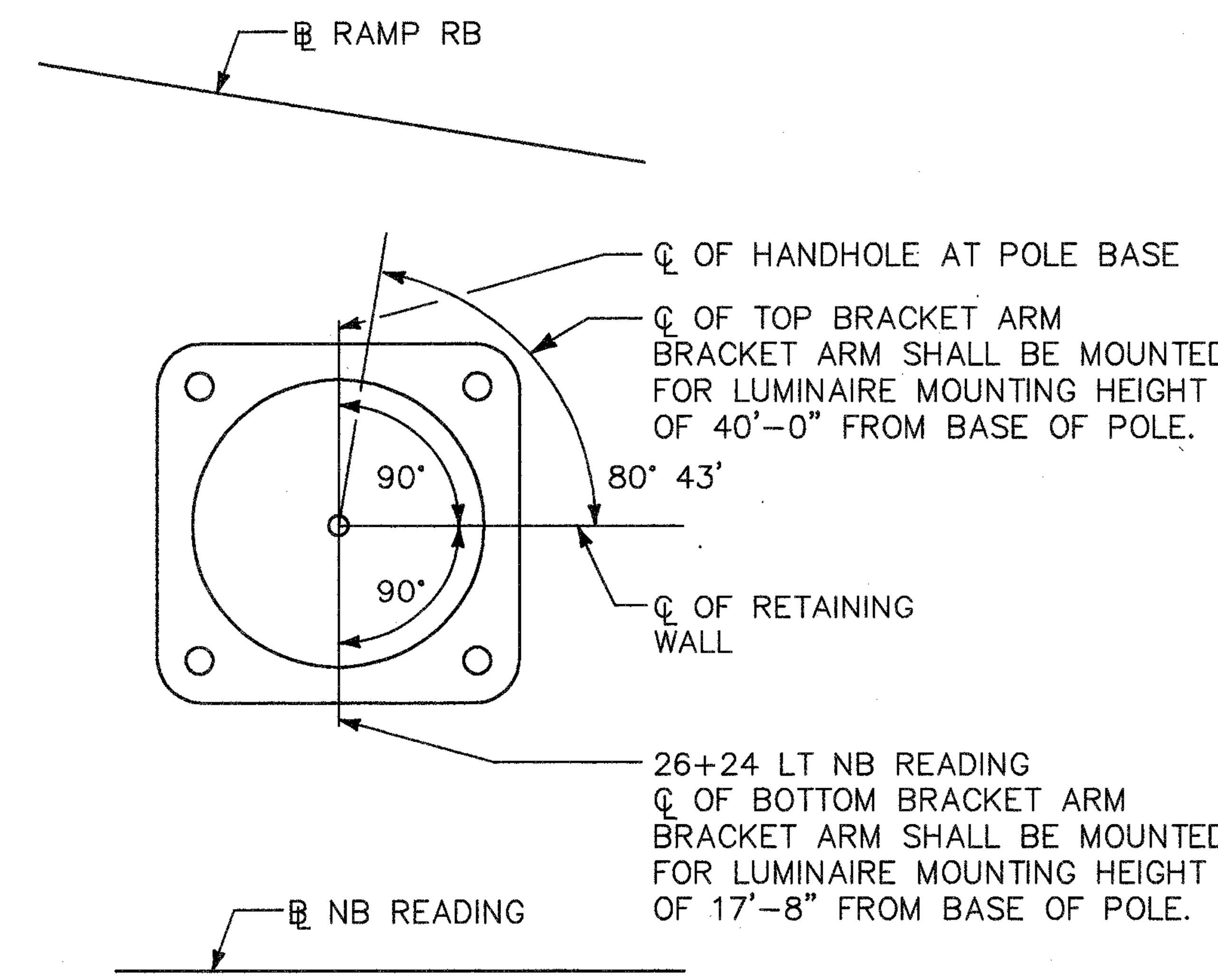
JUNCTION BOX EXTENSION



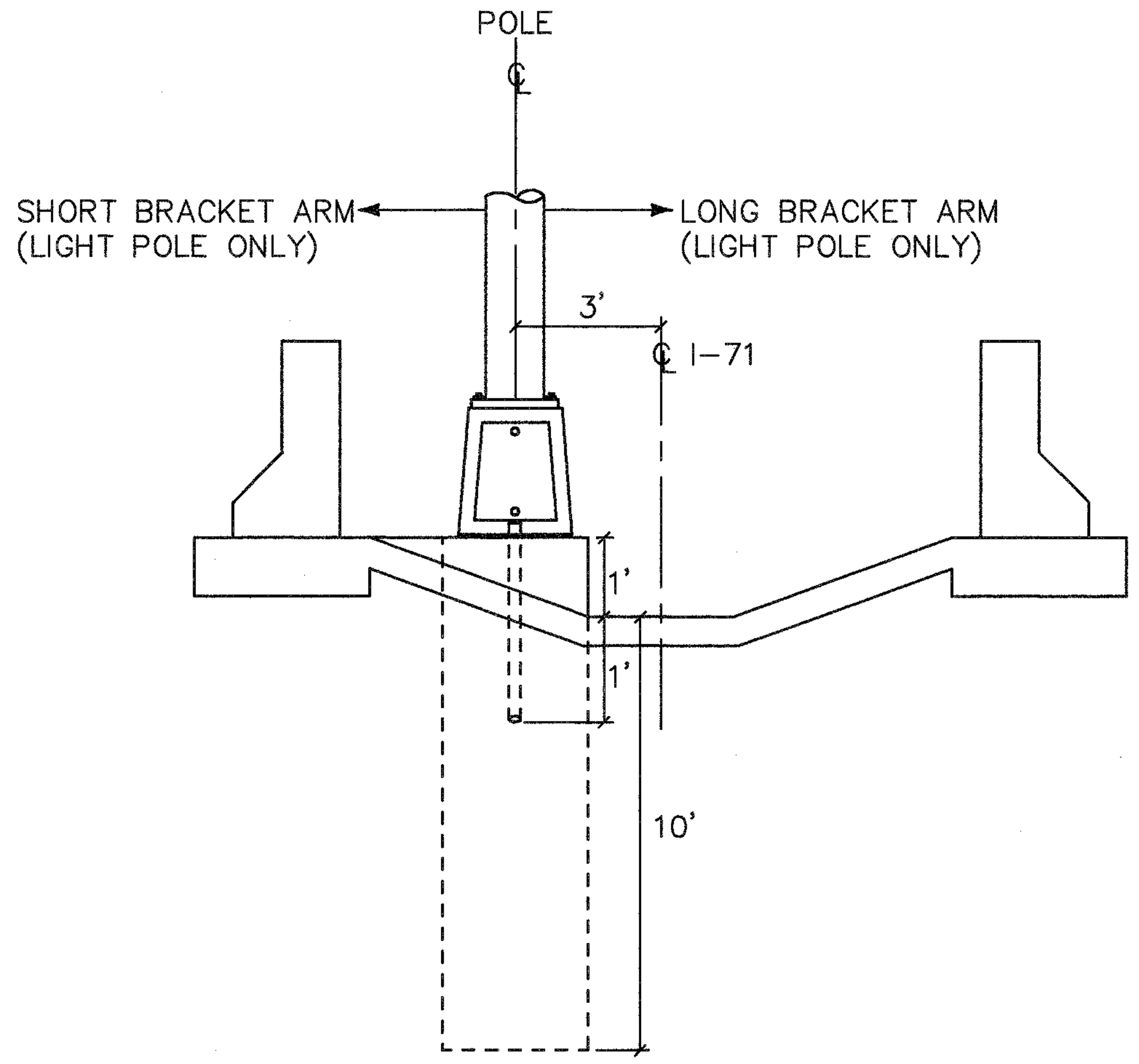
SECTION A-A

MEDIAN LIGHT POLE FOUNDATION 8' DEEP, AS PER PLAN

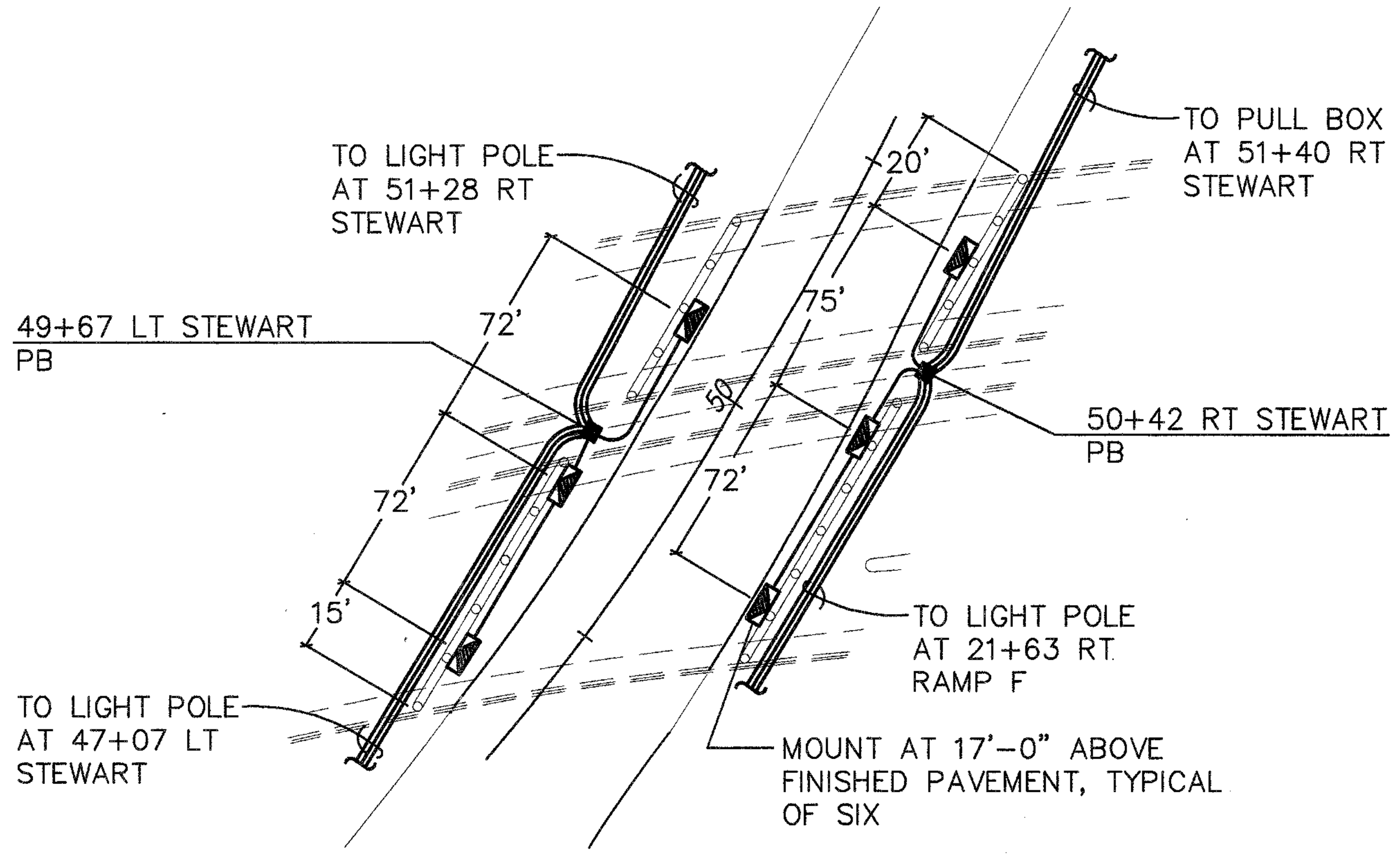
(MEDIAN LIGHT POLE FOUNDATION, 10' DEEP, AS PER PLAN IS SIMILAR)



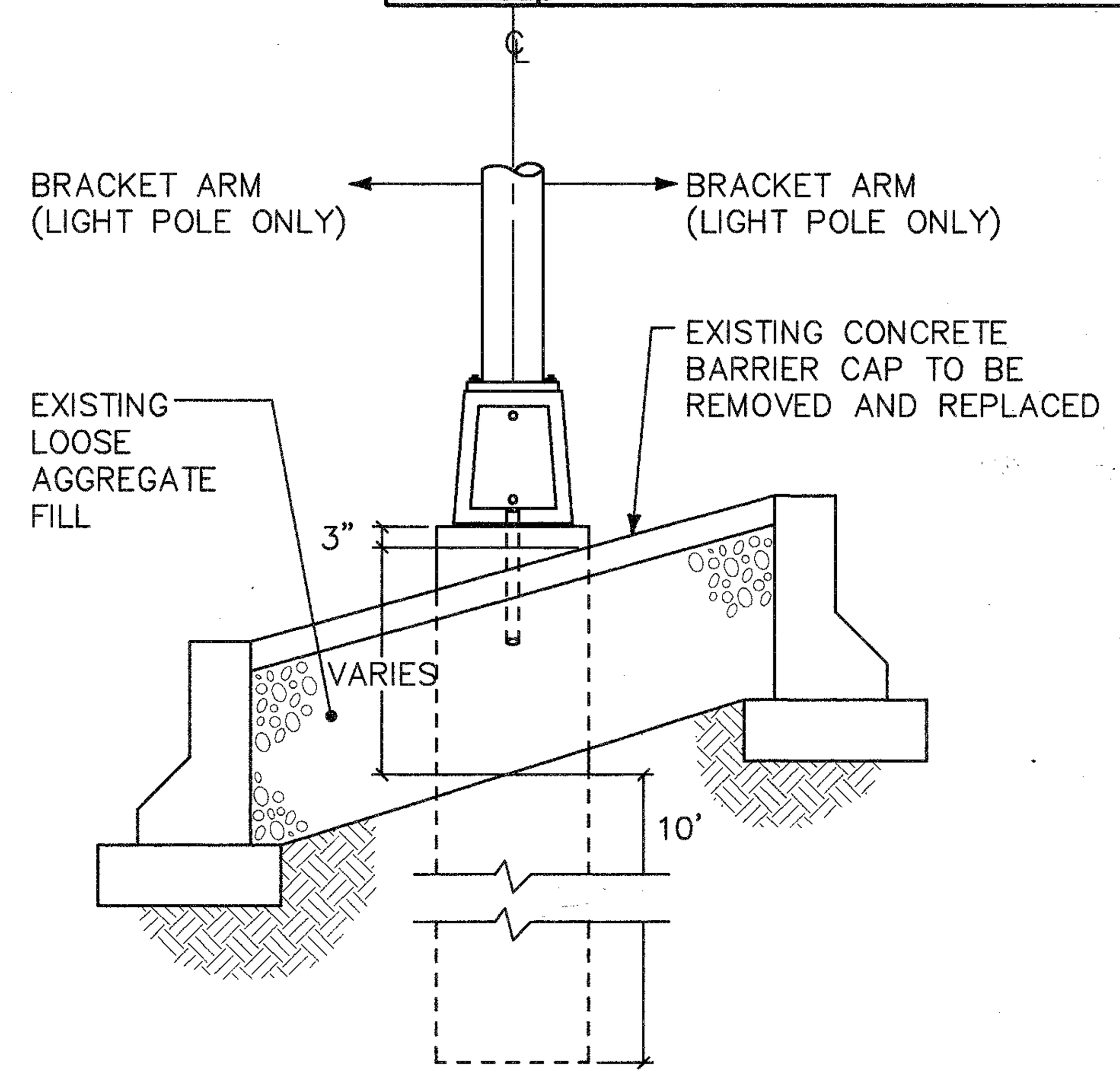
LIGHT POLE DESIGN A10BB40, AS PER PLAN



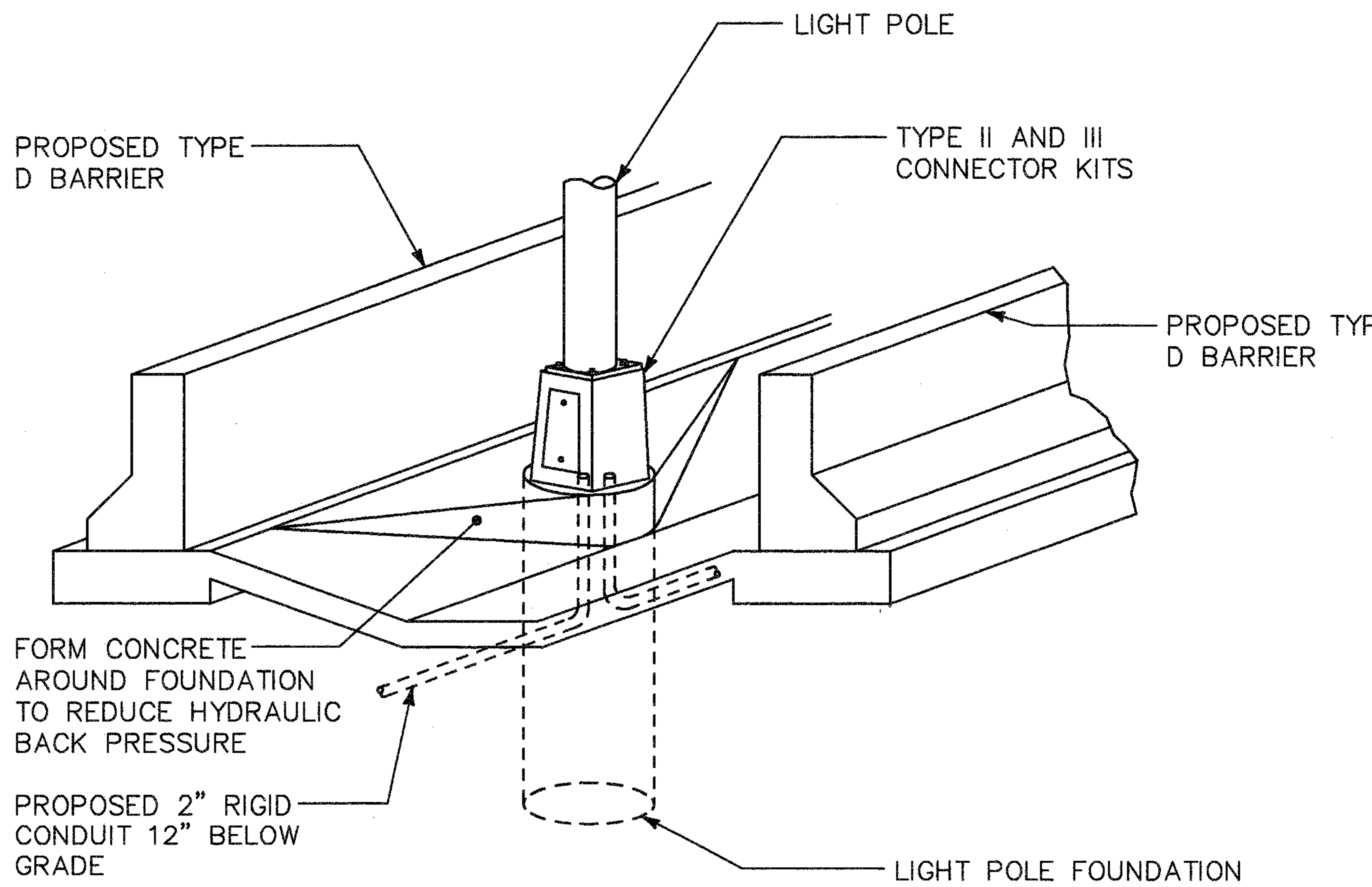
FRONT VIEW
(OPPOSITE HAND SIMILAR)



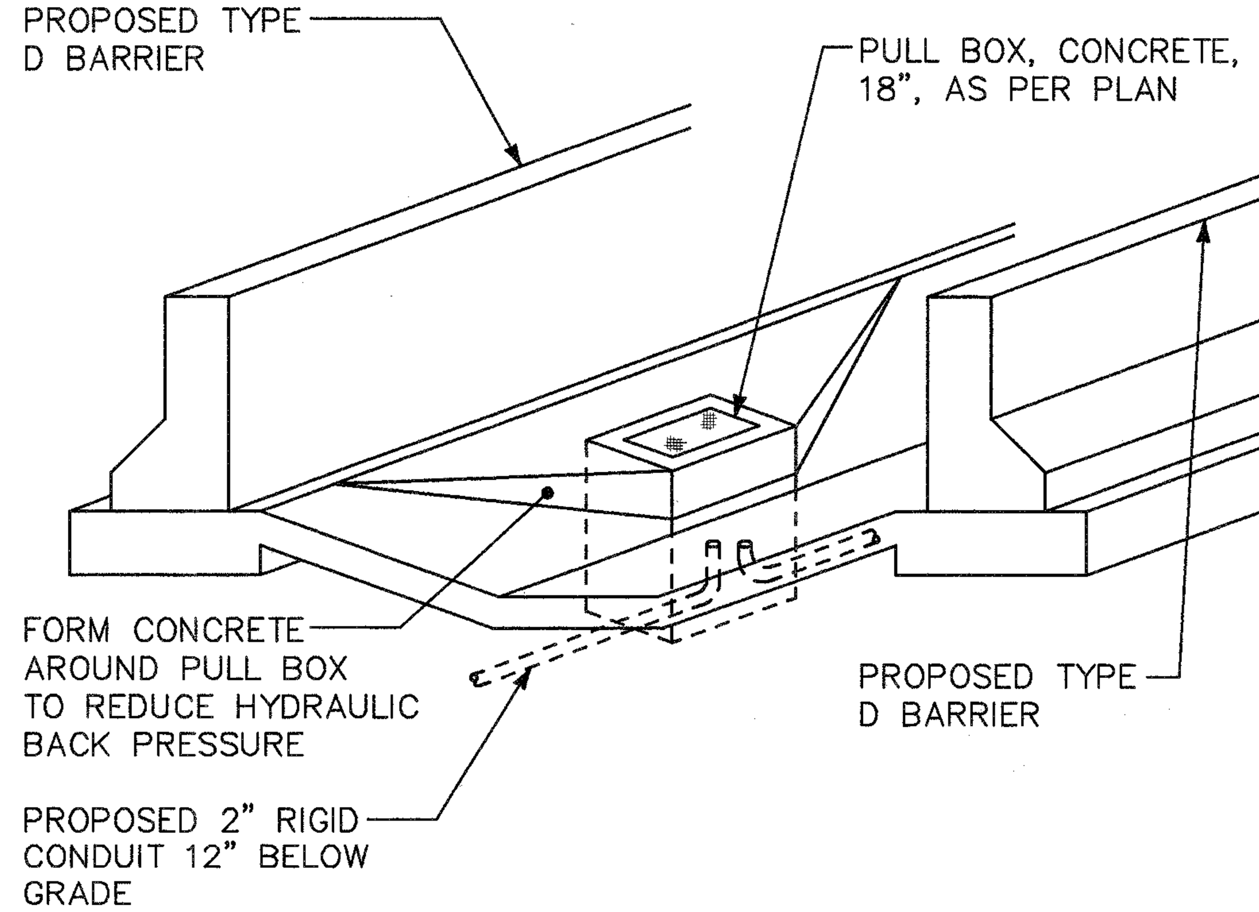
STEWART ROAD UNDERPASS LIGHTING
HAM–71–0168 RT/LT



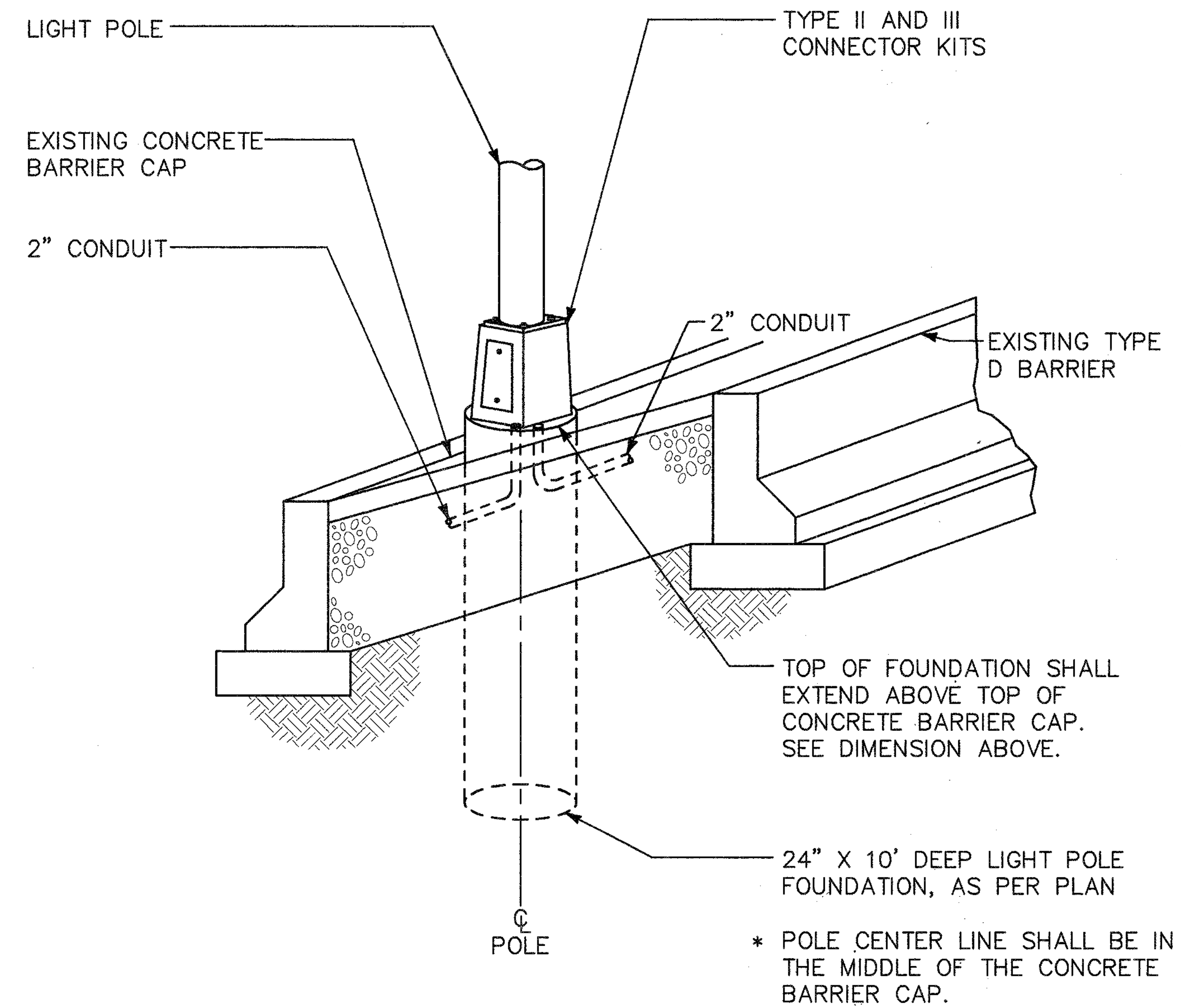
FRONT VIEW



LIGHT POLE FOUNDATION "A", 24" X 10' DEEP, AS PER PLAN
LIGHT TOWER FOUNDATION "A", 36" X 25' DEEP, AS PER PLAN (SIMILAR)
(OPPOSITE HAND SIMILAR)

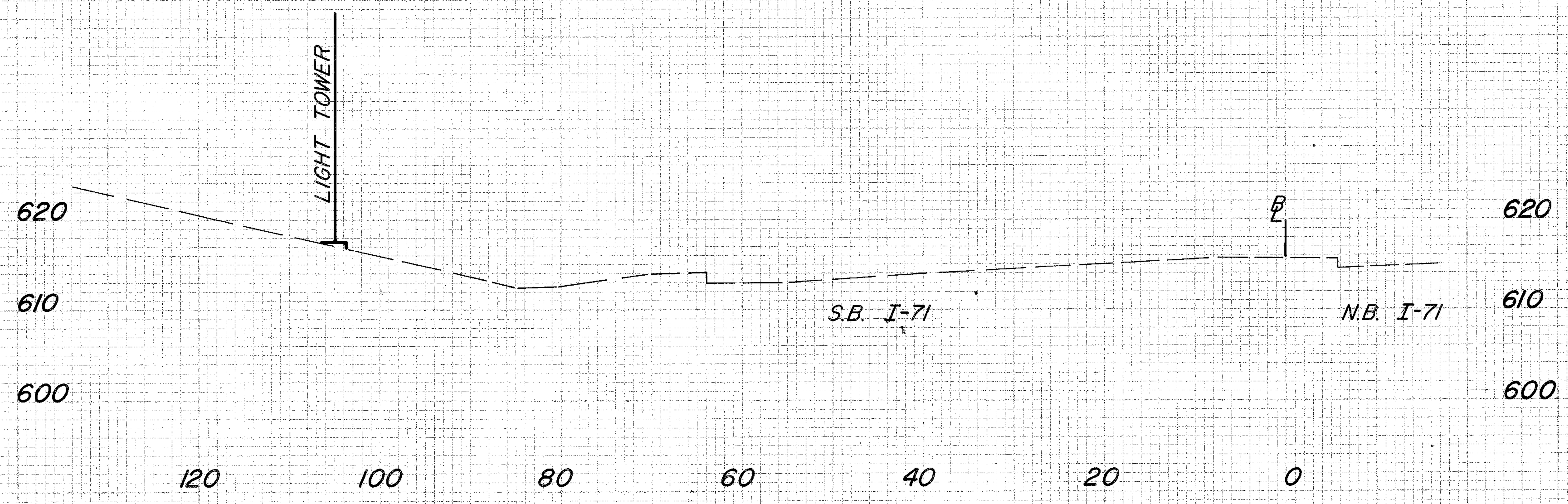


PULL BOX, CONCRETE, 18", AS PER PLAN

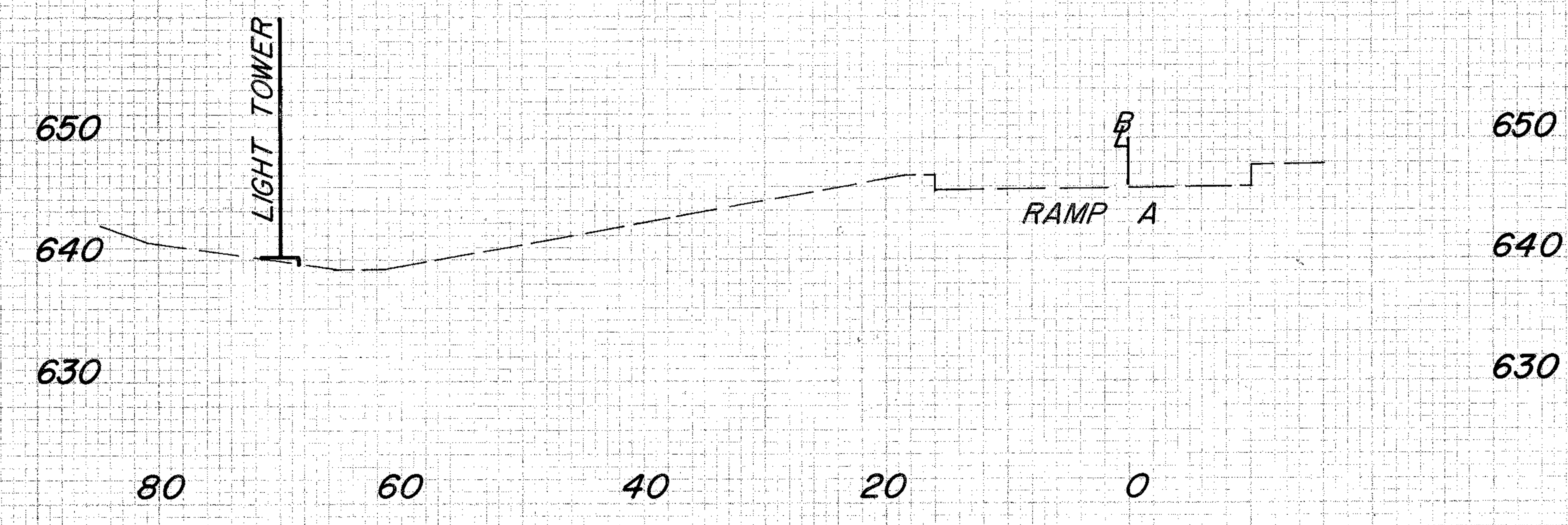


LIGHT POLE FOUNDATION "B", 24" X 10' DEEP, AS PER PLAN

HAMILTON COUNTY
HAM-71-1.30/9.00



486+30 105 LT I-71



4+70 65' LT RAMP A

TRAFFIC CONTROL SUMMARY

CALC. BY [illegible] DATE [illegible] | CHKD. BY DLT DATE [illegible] | HAM-71-1.30/9.00 | OHIO | F.H.W.A. REGION 5 | 230/401

SHEET NUMBER 231	258	259	261	266	268	269	271	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION
		167						620	10300	167	EACH	DELINEATOR, TYPE C, POST MOUNTED
		80						620	15300	80	EACH	DELINEATOR, TYPE D, POST MOUNTED
							39	625	32000	39	EACH	GROUND ROD
							64.57	630	00000	64.6	C.Y.	CONCRETE FOR ANCHOR BASE FOUNDATION
						14.28		630	00100	14.3	C.Y.	CONCRETE FOR EMBEDDED FOUNDATION
					1055.88	120.00		630	03100	1176	LIN. FT.	GROUND MOUNTED SUPPORT, NO. 3 POST
					288.00	14.50		630	04100	303	LIN. FT.	GROUND MOUNTED SUPPORT, NO. 4 POST
						398.50		630	06400	399	LIN. FT.	GROUND MOUNTED SUPPORT, S4x7.7 BEAM
						35.50		630	06500	36	LIN. FT.	GROUND MOUNTED SUPPORT, W6x9 BEAM
						110.50		630	07600	111	LIN. FT.	GROUND MOUNTED SUPPORT, W10x12 BEAM
					30.00			630	08100	30	LIN. FT.	ONE WAY SUPPORT, NO. 4 POST
						34		630	09000	34	EACH	BREAKAWAY BEAM CONNECTION
							1	630	20300	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 3, 18.50' ARMS
							2	630	21000	2	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 10, 30.00' ARMS
							1	630	20800	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-12.30, DESIGN 8, 28.00' ARMS
							1	630	37000	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 6, 69.92' SPAN
							1	630	36000	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 6, 63.00' SPAN
							1	630	36500	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 6, 68.50' SPAN
							1	630	35500	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 6, 58.75' SPAN
							1	630	47500	1	EACH	OVERHEAD SIGN SUPPORT, TYPE TC-7.65, DESIGN 8, 78.75' SPAN
							162	630	75000	162	EACH	SIGN ATTACHMENT ASSEMBLY
					2	12		630	79500	14	EACH	SIGN SUPPORT ASSEMBLY, POLE MOUNTED
					5			630	79600	5	EACH	SIGN SUPPORT ASSEMBLY, BRIDGE MOUNTED
					843.275	68.7		630	80102	912	SQ.FT.	SIGN, FLAT SHEET, TYPE G
						817.00	8920.00	630	80204	9737	SQ.FT.	SIGN, EXTRUSHEET, TYPE G
							1	630	83100	1	EACH	BARRIER WALL ASSEMBLY, TYPE TC-21.31, DESIGN 1
							2	630	84100	2	EACH	BARRIER WALL ASSEMBLY, TYPE TC-21.41, DESIGN 1
							3	630	84300	3	EACH	BARRIER WALL ASSEMBLY, TYPE TC-21.41, DESIGN 3
							1	630	84400	1	EACH	BARRIER WALL ASSEMBLY, TYPE TC-21.41, DESIGN 4
					61	11		630	84900	72	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL
						13		630	85100	13	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION
							8	630	89702	8	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN SUPPORT AND DISPOSAL
						18		630	85500	18	EACH	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND STORAGE
					51	7		630	86002	58	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL
						30		630	86102	30	EACH	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL
							90	630	87000	90	EACH	REMOVAL OF OVERHEAD MOUNTED SIGN AND STORAGE
67								630	91000	67	EACH	PREPARATION AND SHIPMENT OF STORED SIGNS, FLAT SHEET
90								630	91010	90	EACH	PREPARATION AND SHIPMENT OF STORED SIGNS, EXTRUSHEET
							8	631	84000	8	EACH	SIGN SERVICE
							70	631	84300	70	EACH	SIGN WIRED
							1	631	84400	1	EACH	SIGN WIRED, OVERPASS STRUCTURE MOUNTED
							38	631	85100	38	EACH	DISCONNECT SWITCH WITH ENCLOSURE, TYPE X
							21	631	86910	21	EACH	BALLAST, TYPE CMRI-100-120, INTEGRAL
							1	631	87102	1	EACH	BALLAST, TYPE CMRI-100-480, INTEGRAL ?
							68	631	87154	68	EACH	BALLAST, TYPE CMRI-175-120, INTEGRAL
							30	631	87202	30	EACH	BALLAST, TYPE CMRI-175-480, INTEGRAL
							9	631	87254	9	EACH	BALLAST, TYPE CMRI-250-120, INTEGRAL
							21	631	89100	21	EACH	MERCURY VAPOR LUMINAIRE, TYPE TC-31.21, WITH 100 WATT LAMP
							101	631	89200	101	EACH	MERCURY VAPOR LUMINAIRE, TYPE TC-31.21, WITH 175 WATT LAMP
							7	631	89300	7	EACH	MERCURY VAPOR LUMINAIRE, TYPE TC-31.21, WITH 250 WATT LAMP
							125	631	94200	125	EACH	REMOVAL OF LUMINAIRE AND DISPOSAL
							38	631	94304	39	EACH	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL
							1	631	94408	1	EACH	REMOVAL OF SIGN WIRING AND DISPOSAL ?
							125	631	94404	125	EACH	REMOVAL OF BALLAST AND DISPOSAL
							105	631	97700	105	EACH	SIGN LIGHTING AND ELECTRICAL SIGN ITEM, MISC.: LUMINAIRE SUPPORT ARMS, TYPE TC-31.21
				6760.87				642	00790	6761	LIN. FT.	CURB MARKING
				70.00				642	00910	70	SQ. FT.	ISLAND MARKING
				24.40				644	00100	24.40	MILE	EDGE LINE
				0.18				644	00100	0.18	MILE	EDGE LINE, 8"
				18.44				644	00200	18.44	MILE	LANE LINE
				0.29				644	00300	0.29	MILE	CENTER LINE
				16159.42				644	00400	16159	LIN. FT.	CHANNELIZING LINE
				5864.00				644	00700	5864	LIN. FT.	TRANSVERSE LINE
		390						802	00100	390	EACH	BARRIER REFLECTOR, TYPE A
		760						802	00200	760	EACH	BARRIER REFLECTOR, TYPE B
	1639							621	00100	1639	EACH	RAISED PAVEMENT MARKER
	40							621	00300	40	EACH	PRISMATIC RETROREFLECTOR

CALC. BY: JDM DATE 9/94 CHKD. BY: JBB DATE 9/94	HAM-71-1.30/9.00	OHIO FHWA REGION 5	230A / 401

TRAFFIC SURVEILANCE SUMMARY

x 100% FEDERAL FUNDS

SHEET NUMBER 135G	271A	ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	AS PER PLAN SHT. NO.
2		202	23000	2 x	SQ.YD	PAVEMENT REMOVED	
783		202	32000	783 x	LIN.FT.	CURB REMOVED	
1120		202	38000	1120 x	LIN.FT.	GUARDRAIL REMOVED	
16		517	76201	16 x	LIN.FT.	RAILING FACED, AS PER PLAN	135C
	280	603	00400	280 x	LIN.FT.	4" CONDUIT, TYPE E	
50		606	13000	50 x	LIN.FT.	GUARDRAIL, TYPE 5	
2		606	35000	2 x	EACH	BRIDGE TERMINAL ASSEMBLY, TYPE 1	
71		614	13300	71 x	EACH	BARRIER REFLECTORS, TYPE B	
71		614	13350	71 x	EACH	OBJECT MARKERS	
1422		622	24005	1422 x	LIN.FT.	CONCRETE BARRIER, TYPE D-50, AS PER PLAN	135C
1730		622	40020	1730 x	LIN.FT.	PORTABLE CONCRETE BARRIER, 32"	
	13285	625	25803	13285 x	LIN.FT.	CONDUIT, CONCRETE ENCASED, AS PER PLAN 4"	28A
	92	625	25901	92 x	LIN.FT.	CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, AS PER PLAN 4"	28A
	11727	625	29000	11727 x	LIN.FT.	TRENCH	
	1558	625	29600	1558 x	LIN.FT.	TRENCH IN PAVED AREA, TYPE B	
	10	625	30706	10 x	EACH	PULLBOX, 713.08, 24"	
	1	625	32000	1 x	EACH	GROUND ROD	
	1	625	30707	1 x	EACH	PULLBOX W/ HEAVY DUTY LID & FRAME, 713.08 24", AS PER PLAN	28D
	5	625	31600	5 x	EACH	PULLBOX W/ HEAVY DUTY LID & FRAME, 713.08 30", AS PER PLAN	28D
	6	625	31600	6 x	EACH	PULLBOX 713.08, 30", AS PER PLAN	28D
2		625	31600	2 x	EACH	PULLBOX 713.08, 36", AS PER PLAN	28D
	5.63	630	00000	5.63 x	CU. YD.	CONCRETE FOR ANCHOR BASE FOUNDATIONS	
17		802	00200	17 x	EACH	BARRIER REFLECTORS, TYPE B	
	1657	625	25920	1657 x	LIN.FT.	CONDUIT, BRIDGE MOUNTED, AS PER PLAN 4"	28B
15		SPECIAL	51267502	15 x	SQ.YD	SEALING CONCRETE SURFACE (EPOXY)	135C
1098		SPECIAL	60740000	1098 x	LIN.FT.	VANDAL PROTECTION FENCE, 60"	135C

630 PREPARATION AND SHIPMENT OF STORED SIGNS, BY TYPE

FLATSHEET AND EXTRUSHEET SIGNS REMOVED UNDER OTHER ITEMS OF WORK SHALL BE PROCESSED AND SHIPPED TO THE ODOT CENTRAL OFFICE TRAFFIC MAINTENANCE SHOP, 1606 WEST BROAD STREET, COLUMBUS, OHIO.

FLATSHEET SIGNS SHALL BE SECURED ON PALLETS. LOADED PALLETS SHALL HAVE A MAXIMUM WEIGHT OF 1000 POUNDS.

THE LOADING, SECURING, TRANSPORTING, AND UNLOADING OF EXTRUSHEET SIGNS SHALL BE BY SUITABLE MEANS TO AVOID DAMAGE TO THE SIGN PANELS. LARGE SIGNS MAY BE CAREFULLY DISASSEMBLED AS NECESSARY INTO SMALLER ASSEMBLIES TO FACILITATE TRANSPORTATION.

DELIVERIES SHALL BE MADE BETWEEN 8:00 A.M. AND 2:00 P.M. LATE ARRIVALS MUST UNLOAD THE FOLLOWING DAY. NO DELIVERIES WILL BE ACCEPTED ON SATURDAY, SUNDAY, AND HOLIDAYS. THE TRAFFIC MAINTENANCE SHOP SUPERINTENDENT SHALL BE NOTIFIED AT (614) 275-2850 AT LEAST THREE (3) DAYS PRIOR TO THE DELIVERY OF THE SIGNS. DELIVERY ARRANGEMENTS OTHER THAN THOSE DESCRIBED ABOVE MUST BE APPROVED IN ADVANCE BY THE TRAFFIC MAINTENANCE SHOP SUPERINTENDENT.

THE SIGNS SHALL BE TRANSPORTED BY THE CONTRACTOR TO THE TRAFFIC MAINTENANCE SHOP WHERE THEY WILL BE UNLOADED AND STORED. PERSONNEL AND A FORK LIFT OF 1000 POUND MINIMUM CAPACITY WILL BE PROVIDED BY THE STATE FOR UNLOADING.

PAYMENT WILL BE AT THE CONTRACT PRICE PER EACH SIGN INCLUDING ALL LABOR, EQUIPMENT, BANDING MATERIAL, PALLETS, TRANSPORTATION AND MISCELLANEOUS MATERIAL NECESSARY TO PERFORM THE WORK.

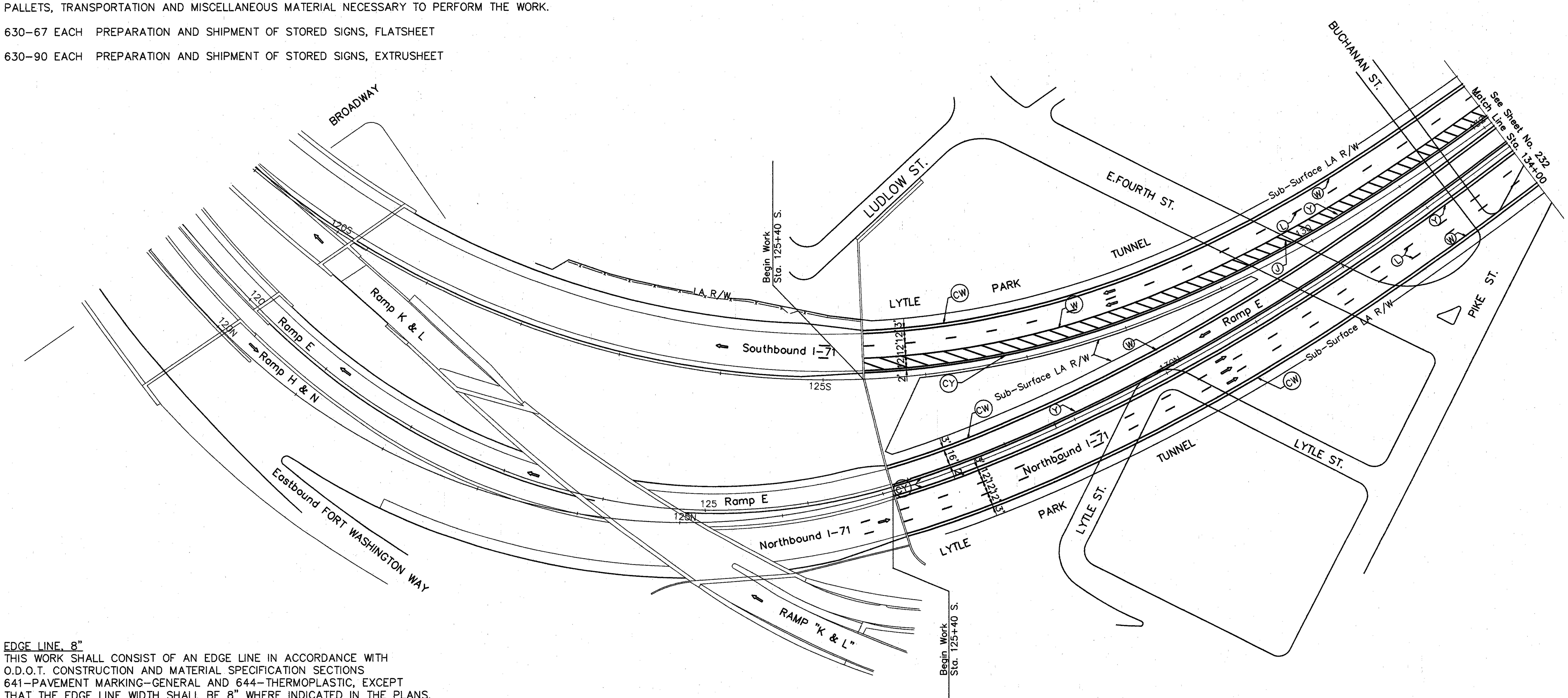
630-67 EACH PREPARATION AND SHIPMENT OF STORED SIGNS, FLATSHEET

630-90 EACH PREPARATION AND SHIPMENT OF STORED SIGNS, EXTRUSHEET

LEGEND

- Y YELLOW EDGE LINE
- 8Y 8" YELLOW EDGE LINE
- CA 8" WHITE CHANNELIZING LINE
- W WHITE EDGE LINE
- L LANE LINE
- T TRANSVERSE LINE, WHITE
- J TRANSVERSE LINE, YELLOW
- I ISLAND MARKING, WHITE
- CY PAINT FACE AND TOP OF CURB YELLOW
- CW PAINT FACE AND TOP OF CURB WHITE
- BW BLACK ON WHITE BACKGROUND
- BY BLACK ON YELLOW BACKGROUND

50 0 50 100 150
GRAPHIC SCALE IN FEET



EDGE LINE, 8"

THIS WORK SHALL CONSIST OF AN EDGE LINE IN ACCORDANCE WITH O.D.O.T. CONSTRUCTION AND MATERIAL SPECIFICATION SECTIONS 641-PAVEMENT MARKING-GENERAL AND 644-THERMOPLASTIC, EXCEPT THAT THE EDGE LINE WIDTH SHALL BE 8" WHERE INDICATED IN THE PLANS.

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CALC. BY DATE	HAM–71–1.30/9.00	OHIO F.H.W.A. REGION 5	232/401
CHKD. BY DATE			

G:\71\TRAFCONT\134-149A.dwg - JUN 08, 1994 - 12:59:55

FOR SIGNING AND PAVEMENT MARKING LEGEND SEE SHEET NO. 231

SIGNING AND PAVEMENT MARKINGS STA. 134+00 TO STA. 149+00 N.B.

FOR SIGNING AND PAVEMENT MARKING LEGEND SEE SHEET NO. 231

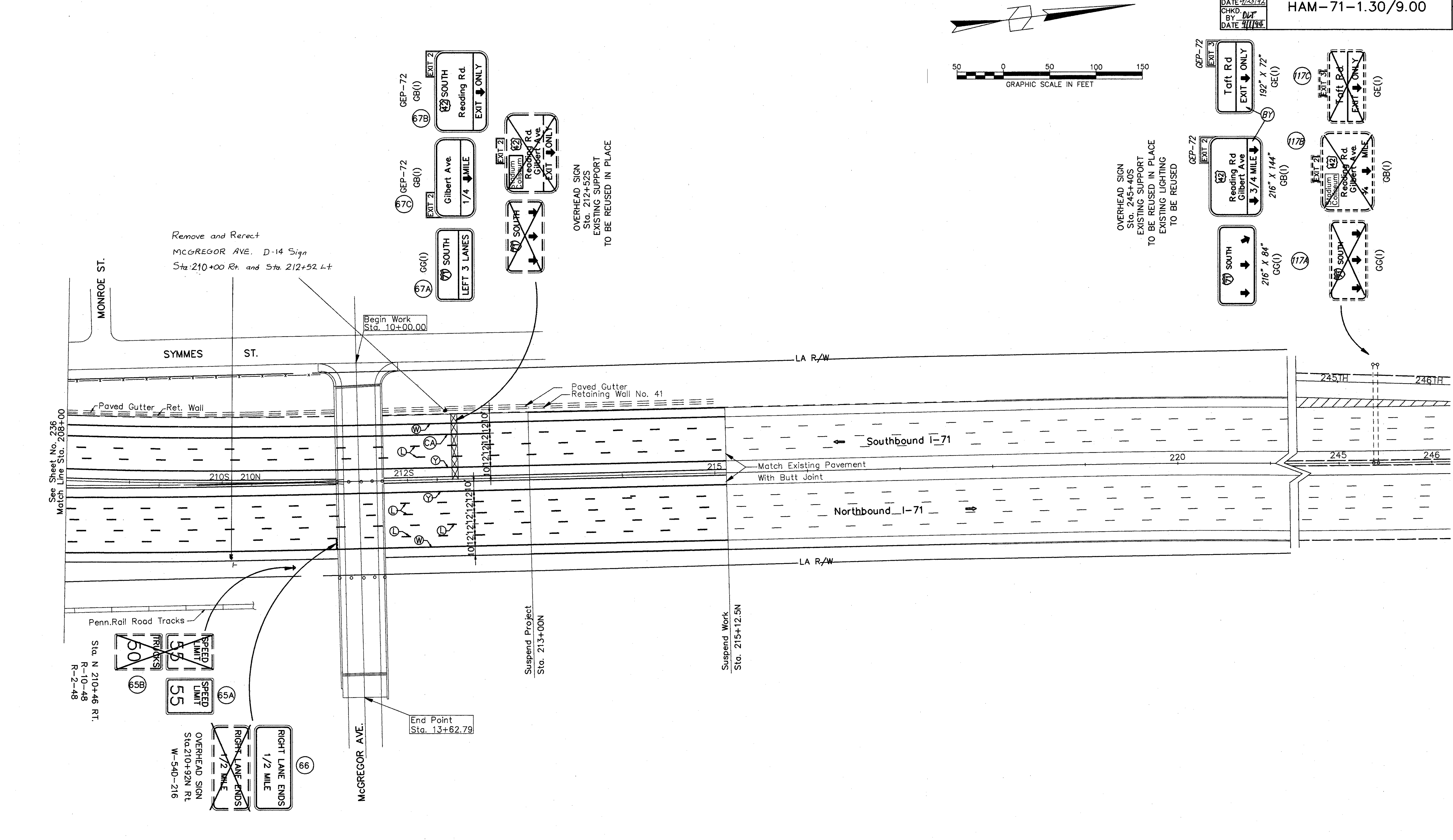
SIGNING AND PAVEMENT MARKINGS STA. 149+00 TO STA. 164+00 N.B.


HAM-71-1.30/9.00
OHIO
F.H.W.A. REGION 5
234/401
GRAPHIC SCALE IN FEET
READING ROAD
READING RD.
SB READING RD.
NB READING RD.
ELSINORE PL.
13TH STREET
LIBERTY STREET
RAMP GF
RAMP GG
RAMP GA
RAMP GD
Southbound GILBERT AVE.
Northbound GILBERT AVE.
Southbound I-71
Northbound I-71
MATCH LINE STA. 31+36 BL471
See Sheet No. 233 Match Line Sta. 164+00 N.B.
See Sheet No. 235 Match Line Sta. 179+00 N.B.
Sta. 32+85 Ramp GG Lt GROUND SIGN EXISTING SUPPORT TO BE REUSED IN PLACE.
Sta. 11+09 Elsinore Pl (Sta. 2+33 Elsinore Pl AS SHOWN ON THE CITY OF CINCINNATI'S READING ROAD PROJECT) OVERHEAD SIGN EXISTING SUPPORT TO BE REUSED IN PLACE.
Sta. 7+80 NB Reading (Sta. 20+07 NB Reading AS SHOWN ON THE CITY OF CINCINNATI'S READING ROAD PROJECT) OVERHEAD SIGN EXISTING SUPPORT TO BE REUSED IN PLACE.
Sta. 172+20 S Lt EXISTING SUPPORT TO BE REUSED IN PLACE.
Sta. 14+20 Rt. EXISTING SUPPORT TO BE REUSED IN PLACE.
OVERHEAD SIGN Sta. RD 175+50 EXISTING SUPPORT TO BE REUSED IN PLACE.
CANTILEVER SIGN Sta. 171+03N Rt. EXISTING SUPPORT TO BE REUSED IN PLACE.
FENCE CONTINUES ON THE TOP OF THE RETAINING WALL (NOT SHOWN)
Remove and Reerect LIBERTY ST. D-14 Sign Sta 164+00 Rt. and Sta 166+00 Lt.
Remove and Reerect GILBERT AVE. D-14 Sign Sta. 171+00 Rt. and Sta 172+20 Lt. ELSINORE AVE. D-14 Sign Sta. 174+78 Rt. and Sta. 176+00 Lt.
FOR SIGNING AND PAVEMENT MARKING LEGEND SEE SHEET NO. 231
SIGNING AND PAVEMENT MARKINGS STA. 164+00 TO STA. 179+00 N.B.
G:\71\TRAFCONT\164-179.dwg - JUN. 25, 1992

CALC. BY / DATE 9/23/97	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	235/401
CHKD. BY DLT / DATE			

SIGNING AND PAVEMENT MARKINGS STA. 179+00 TO STA. 193+00 N.B.

SIGNING AND PAVEMENT MARKINGS STA. 193+00 TO STA. 208+00 N.B.



FOR SIGNING AND PAVEMENT MARKING LEGEND SEE SHEET NO. 231

SIGNING AND PAVEMENT MARKINGS STA. 208+00 TO STA. 223+00 N.B.

CALC. BY DATE 9/23/92 CHKD. BY DLT DATE	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	238/401

GRAPHIC SCALE IN FEET

FOR SIGNING AND PAVEMENT MARKING LEGEND SEE SHEET NO. 231

G:\71\TRAFCONT\429-445.dwg - JUN 08, 1994 - 14:00:24

SIGNING AND PAVEMENT MARKINGS STA. 429+00 TO STA. 445+00

CALC. BY ___ DATE 9/23/93 / CHKD. BY DLT DATE 4/1/94	HAM-71-1.30/9.00	OHIO / F.H.W.A. REGION 5	239 / 401

50 0 50 100 150
GRAPHIC SCALE IN FEET

FOR SIGNING AND PAVEMENT MARKING LEGEND SEE SHEET NO. 231

G:\71\TRAFCON\445-460.dwg - JUN 06, 1994 - 14:08:49

SIGNING AND PAVEMENT MARKINGS STA. 445+00 TO STA. 460+00

SIGNING AND PAVEMENT MARKINGS STA. 460+00 TO STA. 475+00

FOR SIGNING AND PAVEMENT MARKING LEGEND SEE SHEET NO. 231

SIGNING AND PAVEMENT MARKINGS

STA. 475+00 TO STA. 488+00

CALC. BY DATE 9/23/93 | CHKD. BY DATE

HAM-71-1.30/9.00

OHIO F.H.W.A. REGION 5

242/401

FOR SIGNING AND PAVEMENT MARKING LEGEND SEE SHEET NO. 231

SIGNING AND PAVEMENT MARKINGS STA. 488+00 TO STA. 503+00

CALC. BY / DATE 9/23/92 / CHKD. BY DLP / DATE 4/1/94	HAM-71-1.30/9.00	OHIO / F.H.W.A. REGION 5	243/401

FOR SIGNING AND PAVEMENT MARKING LEGEND SEE SHEET NO. 231

SIGNING AND PAVEMENT MARKINGS

STA. 503+00 TO STA. 518+00

CALC. BY — DATE — CHKD. BY DLT DATE —	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	244/401

FOR SIGNING AND PAVEMENT MARKING LEGEND SEE SHEET NO. 231

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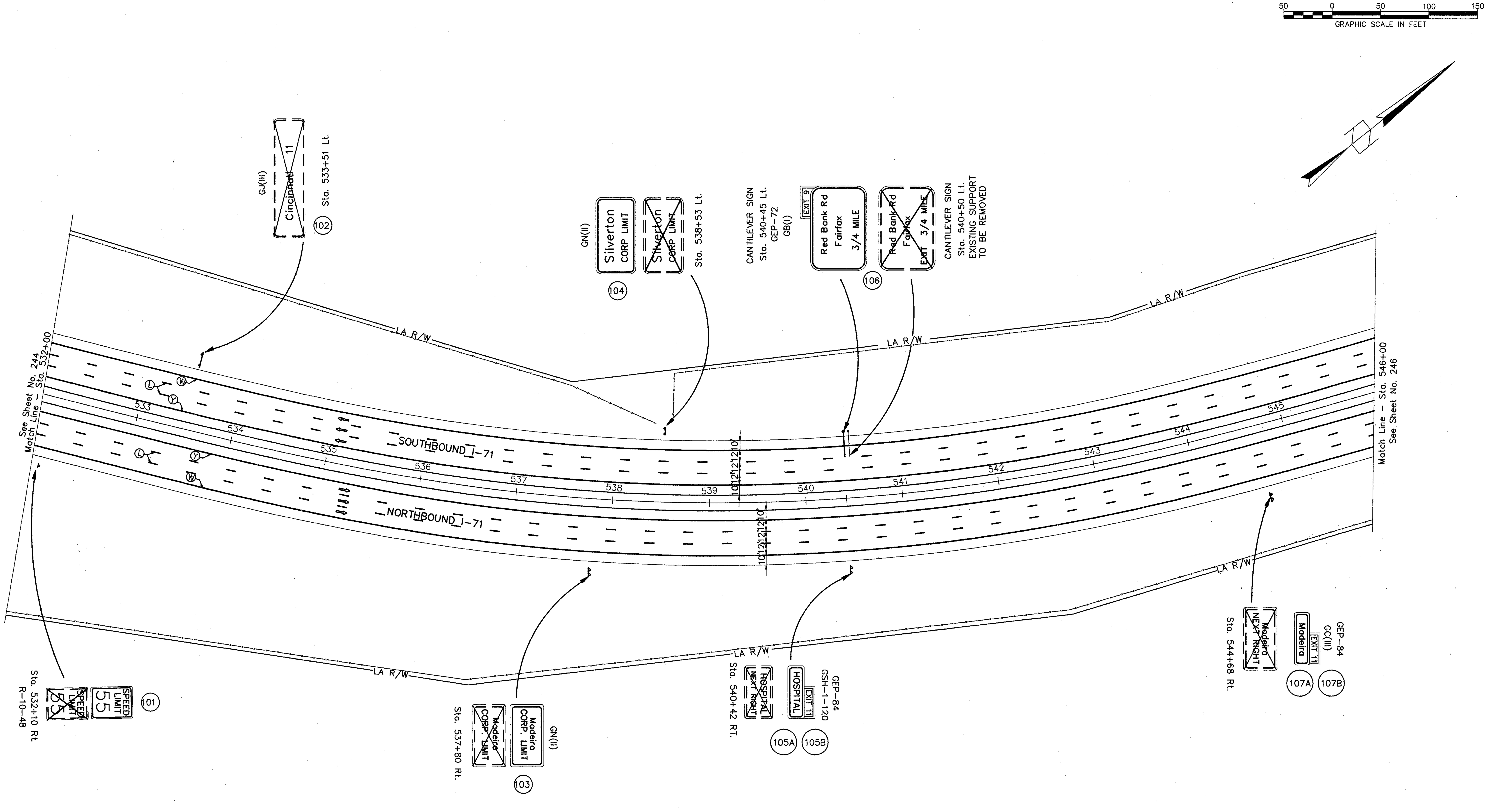
SIGNING AND PAVEMENT MARKINGS STA. 518+00 TO STA. 532+00

CALC. BY ATM DATE 9/23/92 CHKD. BY DJT DATE 9/1/94	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	245/401



FOR SIGNING AND PAVEMENT MARKING LEGEND SEE SHEET NO. 231

SIGNING AND PAVEMENT MARKINGS STA. 532+00 TO STA. 546+00

CALC. BY DATE	HAM-71-1.30/9.00	OHIO	246 / 401
CHKD. BY DATE		F.H.W.A. REGION 5	

FOR SIGNING AND PAVEMENT MARKING LEGEND SEE SHEET NO. 231

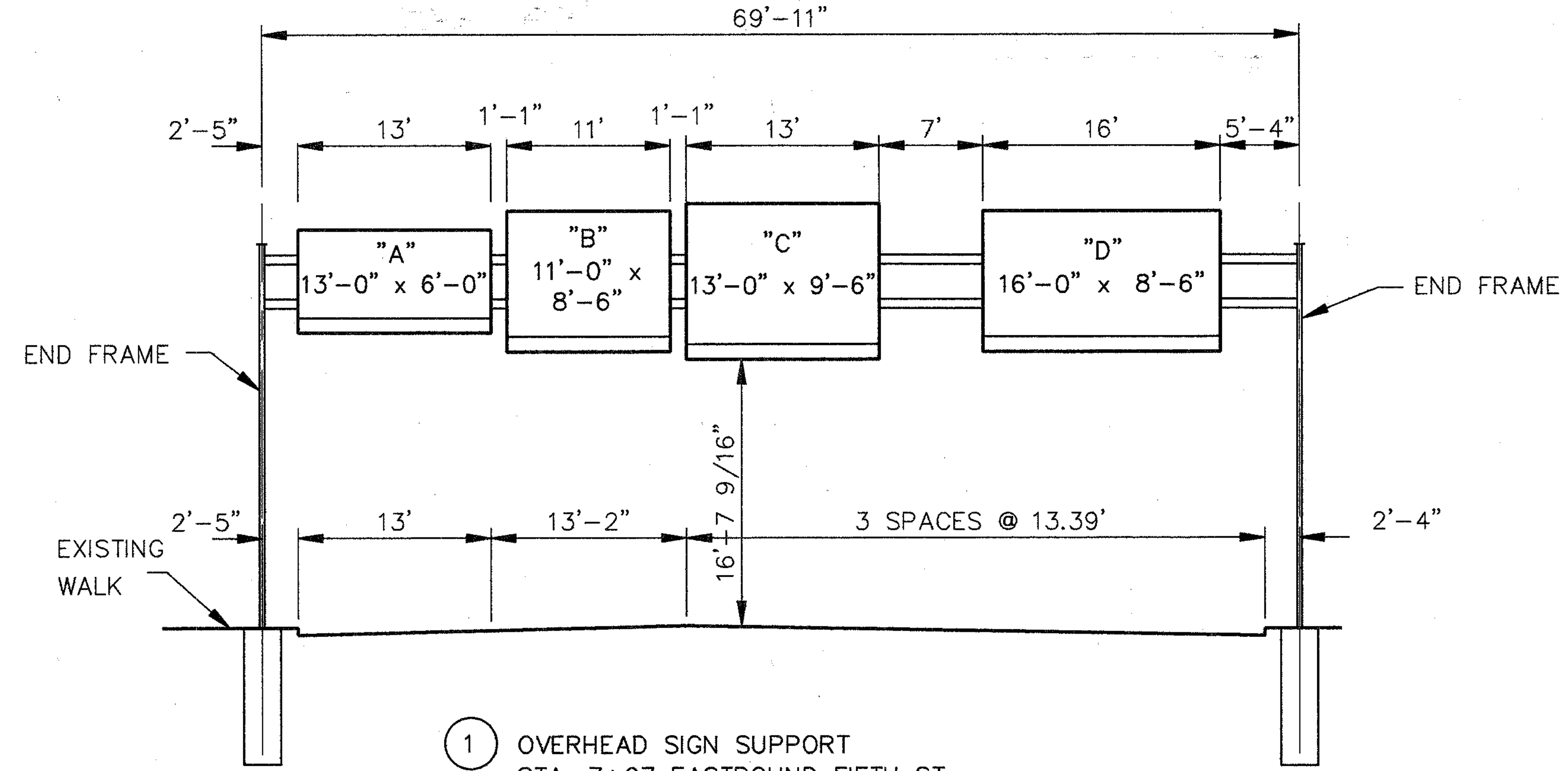
SIGNING AND PAVEMENT MARKINGS STA. 546+00 TO STA. 561+00

CALC. BY / DATE	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	247 / 401
CHKD. BY DLT / DATE			

FOR SIGNING AND PAVEMENT MARKING LEGEND SEE SHEET NO. 231

SIGNING AND PAVEMENT MARKINGS RED BANK ROAD INTERCHANGE

NOTE: NEW PROPOSED SUPPORT



(1) OVERHEAD SIGN SUPPORT
STA. 7+07 EASTBOUND FIFTH ST.
TYPE 7.65 DESIGN No. 6
TOTAL SIGN AREA = 431 S.F.

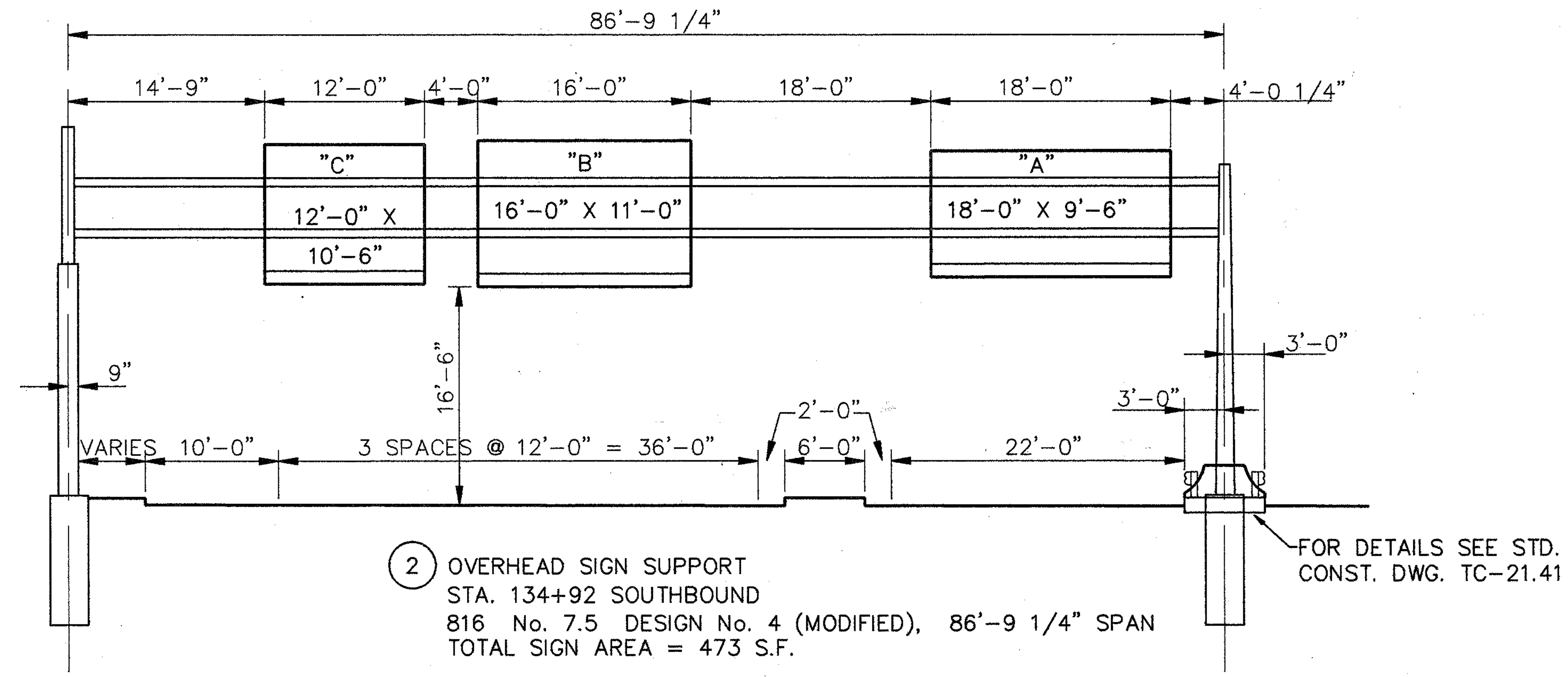
"A"
13'-0" x 5'-0" = 65 S.F.
SPACING = 6", 72", 72", 6"
No. OF BRACKETS 3 Ht. = 6'-0"
FIXTURES 2 LUMINAIRES @ 100W

"B"
11'-0" x 7'-6" = 82.5 S.F.
SPACING = 10 3/8", 99 3/8", 16 1/4"
No. OF BRACKETS 2 Ht. = 8'-6"
FIXTURES 1 LUMINAIRES @ 175W

"C"
13'-0" x 8'-6" = 110.5 S.F.
SPACING = 6", 72", 72", 6"
No. OF BRACKETS 3 Ht. = 9'-6"
FIXTURES 2 LUMINAIRES @ 175W

"D"
16'-0" x 7'-6" = 120 S.F.
SPACING = 8 5/8", 75 3/8", 99 3/8", 8 5/8"
No. OF BRACKETS 3 Ht. = 8'-6"
FIXTURES 2 LUMINAIRES @ 175W

NOTE: EX. SUPPORTS TO BE
RE-USED IN PLACE.



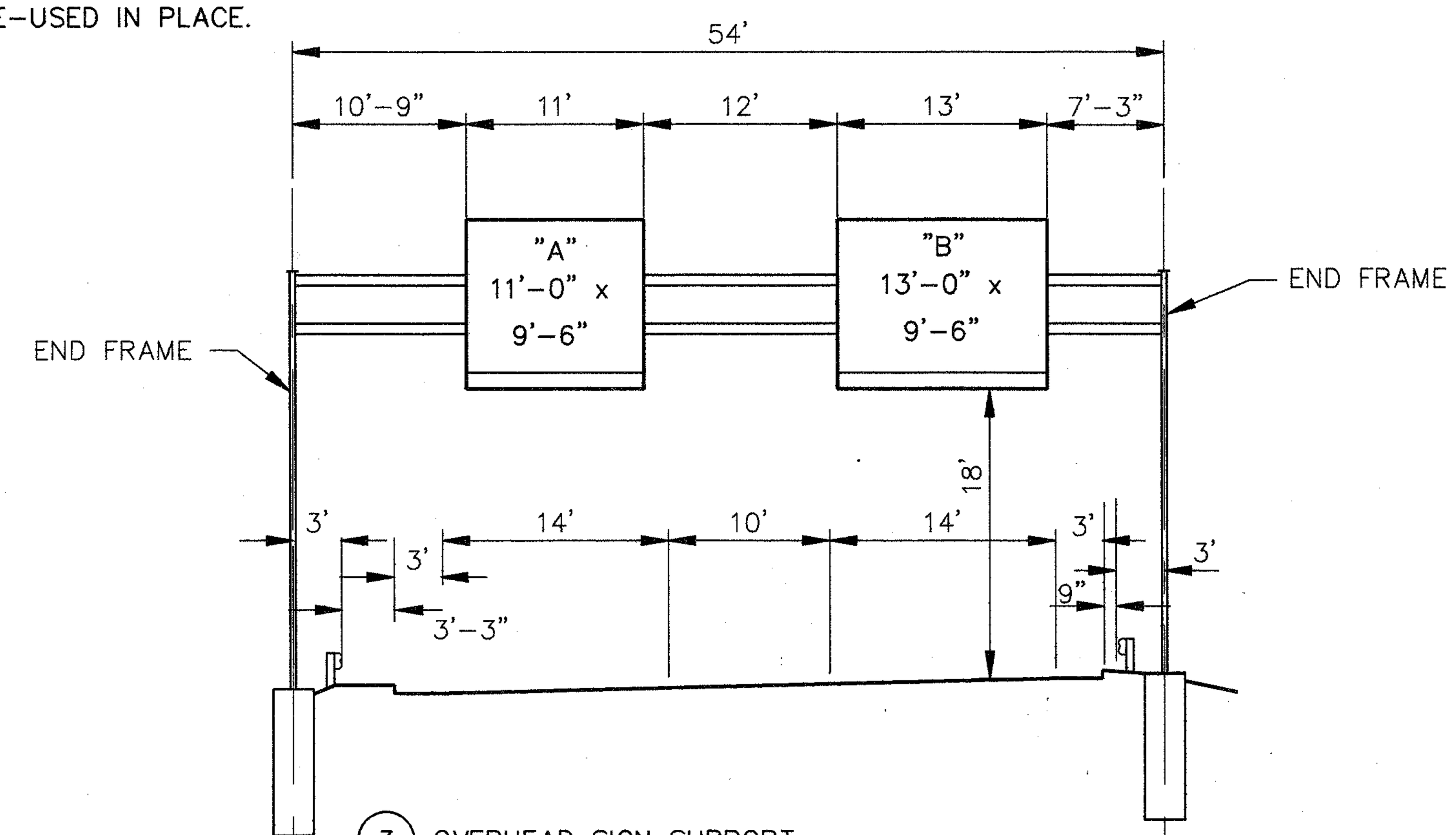
(2) OVERHEAD SIGN SUPPORT
STA. 134+92 SOUTHBOUND
816 No. 7.5 DESIGN No. 4 (MODIFIED), 86'-9 1/4" SPAN
TOTAL SIGN AREA = 473 S.F.

"C"
12'-0" X 9'-6" = 114 S.F.
SPACING = 6", 66", 66", 6"
No. OF BRACKETS 3 Ht. 10'-6"
FIXTURES 2 LUMINAIRES @ 175W

"B"
16'-0" X 10'-0" = 160 S.F.
SPACING = 8 5/8", 75 3/8", 99 3/8" 8 5/8"
No. OF BRACKETS 3 Ht. 11'-0"
FIXTURES 2 LUMINAIRES @ 175W

"A"
18'-0" X 8'-6" = 153 S.F.
SPACING = 8 5/8", 99 3/8", 99 3/8", 8 5/8"
No. OF BRACKETS 3 Ht. 9'-6"
FIXTURES 2 LUMINAIRES @ 175W

NOTE: EX. SUPPORTS TO BE
RE-USED IN PLACE.



(3) OVERHEAD SIGN SUPPORT
STA. 137+74 RAMP B
TYPE 7.3 DESIGN No.1 MOD. BRACKETS TYPE Ya
TOTAL SIGN AREA = 228 S.F.

"A"
11'-0" x 8'-6" = 93.5 S.F.
SPACING = 16 3/8", 99 3/8", 16 1/4"
No. OF BRACKETS 2 Ht. = 9'-6"
FIXTURES 1 LUMINAIRE @ 175W

"B"
13'-0" x 8'-6" = 110.5 S.F.
SPACING = 6", 72", 72", 6"
No. OF BRACKETS 3 Ht. = 9'-6"
FIXTURES 2 LUMINAIRES @ 175W

5 0 5 10 15 20
SCALE: 1/8" = 1'-0"

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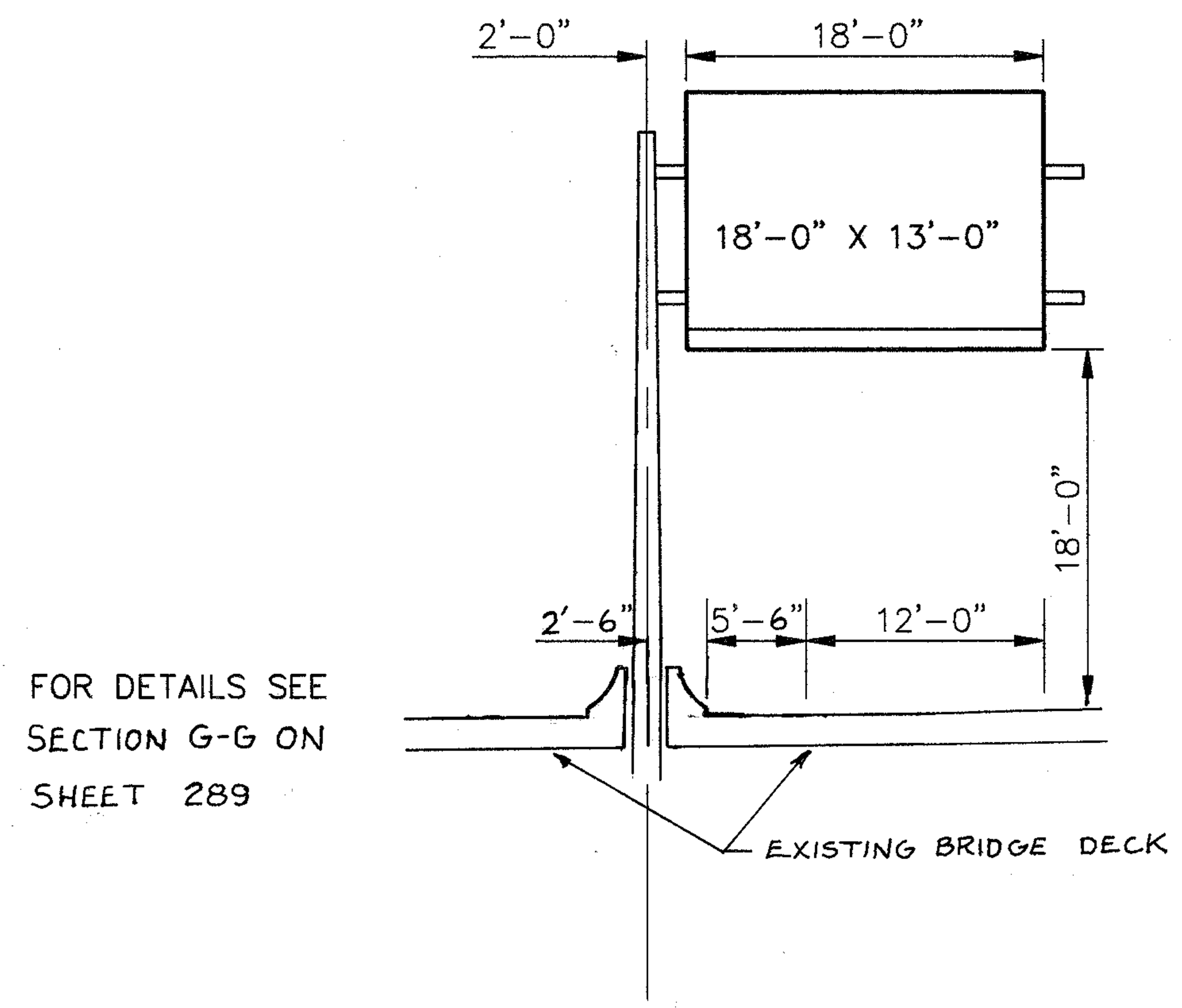
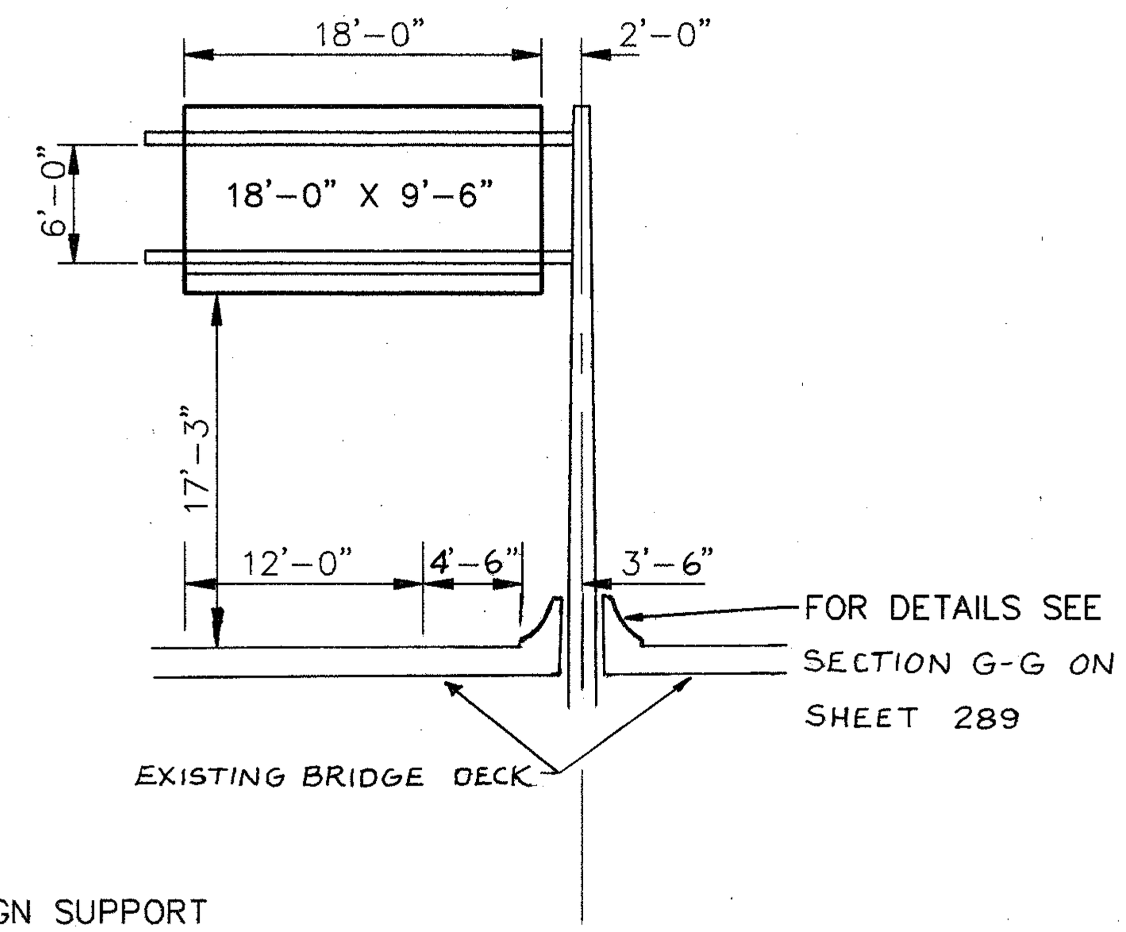
GUIDE SIGN ELEVATION VIEWS

NOTE: EX. SUPPORTS TO BE
RE-USED IN PLACE.



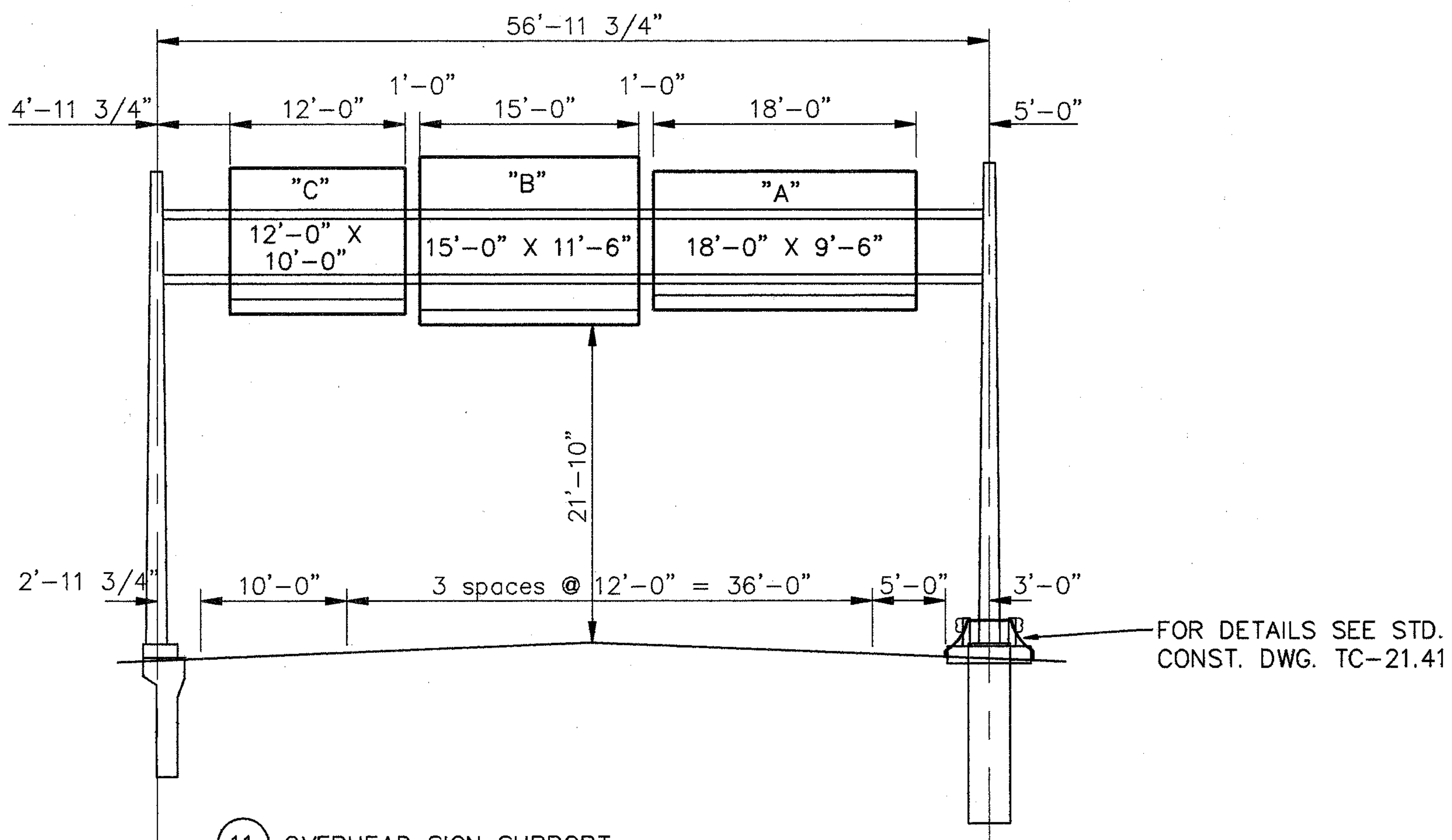
(6) OVERHEAD SIGN SUPPORT
STA. 140+00 NORTHBOUND
816 No. 12.24 DESIGN No. 5 22' ARM
TOTAL SIGN AREA = 18'-0" X 13'-0" = 234 S.F.
EFFECTIVE SIGN AREA = 18'-0" X 12'-0" = 216 S.F.
SPACING = 8 5/8, 99 3/8, 99 3/8, 8 5/8
No. OF BRACKETS 3 Ht. 13'-0"
FIXTURES 2 LUMINAIRES @ 250W

NOTE: EX. SUPPORTS TO BE
RE-USED IN PLACE.



(7) OVERHEAD SIGN SUPPORT
STA 142+27 SOUTHBOUND
816 No. 12.24 DESIGN No. 5 22' ARM
TOTAL SIGN AREA = 18'-0" X 9'-6" = 171 S.F.
EFFECTIVE SIGN AREA = 18'-0" X 8'-6" = 153 S.F.
SPACING = 8 5/8, 99 3/8, 99 3/8, 8 5/8
No. OF BRACKETS 3 Ht. 9'-6"
FIXTURES 2 LUMINAIRES @ 175W

NOTE: EX. SUPPORTS TO BE
RE-USED IN PLACE.



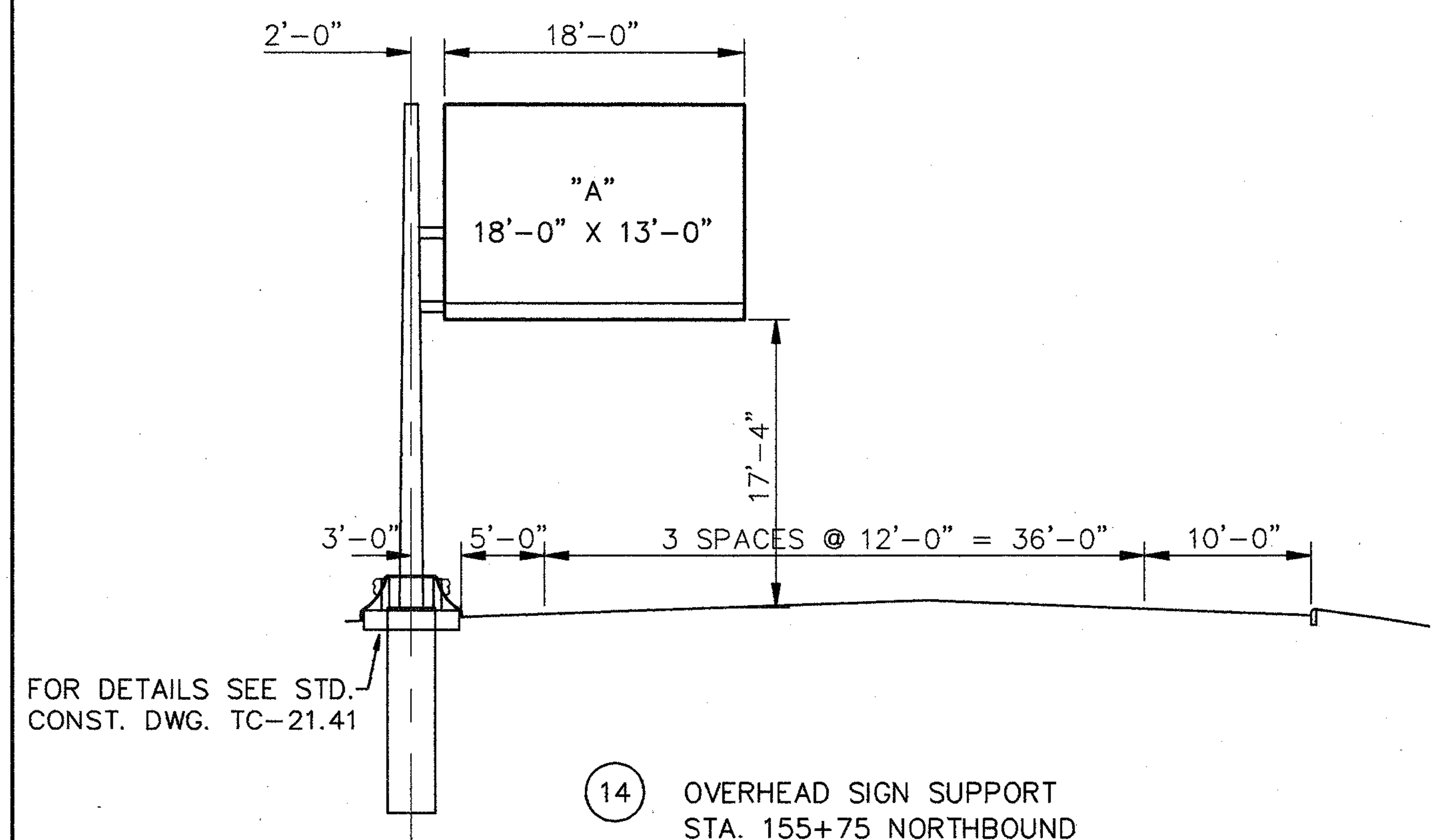
(11) OVERHEAD SIGN SUPPORT
STA. 152+37 SOUTHBOUND
816 No. 7.5 DESIGN No. 1 (MODIFIED) 56'-11 3/4" SPAN
TOTAL SIGN AREA = 463.5 S.F.

"C"
12'-0" X 9'-0" = 108 S.F.
SPACING = 6", 66", 66", 6"
No. OF BRACKETS 3 Ht. 10'-0"
FIXTURES 2 LUMINAIRES @ 175W

"B"
15'-0" X 10'-6" = 157.5 S.F.
SPACING = 14 5/8", 75 3/8", 75 3/8", 14 5/8"
No. OF BRACKETS 3 Ht. 11'-6"
FIXTURES 2 LUMINAIRES @ 175W

"A"
18'-0" X 8'-6" = 153 S.F.
SPACING = 8 5/8", 99 3/8", 99 3/8" 8 5/8"
No. OF BRACKETS 3 Ht. 9'-6"
FIXTURES 2 LUMINAIRES @ 175W

NOTE: EX. SUPPORTS TO BE
RE-USED IN PLACE.



(14) OVERHEAD SIGN SUPPORT
STA. 155+75 NORTHBOUND
I-129 No. 12.24 DESIGN 7 (MODIFIED) 18' ARM
TOTAL SIGN AREA = 18'-0" X 13'-0" = 222 S.F.
EFFECTIVE SIGN AREA = 18'-0" X 12'-0" = 204 S.F.
SPACING = 14 5/8", 75 3/8", 99 3/8", 14 5/8"
No. OF BRACKETS 3 Ht. 13'-0"
FIXTURES 2 LUMINAIRES @ 250W

5 0 5 10 15 20
SCALE: 1/8" = 1'-0"

GUIDE SIGN ELEVATION VIEWS

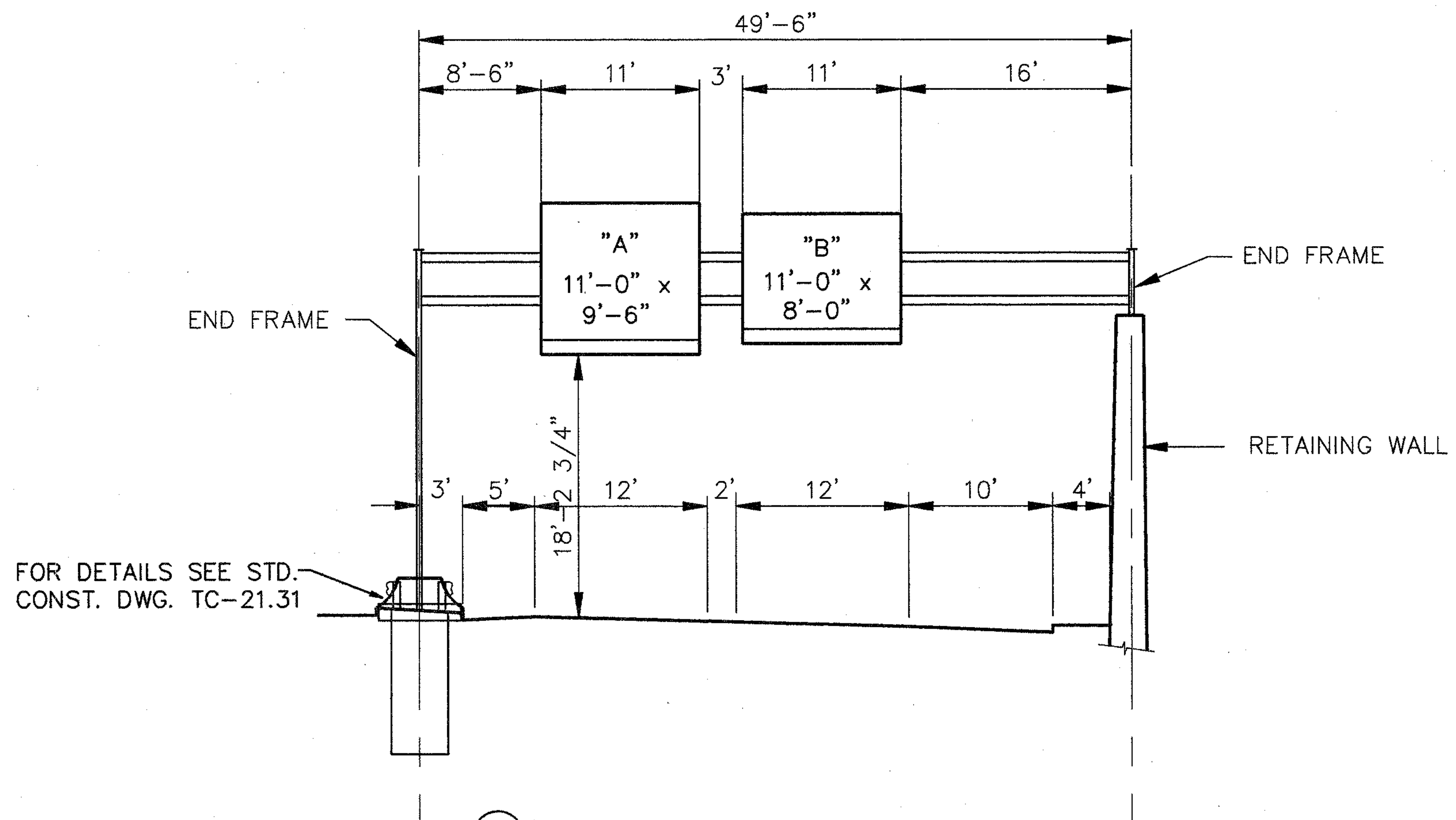
CALC. BY DATE 9/23/93
CHKD. BY DATE

HAM-71-1.30/9.00

OHIO F.H.W.A. REGION 5

250/401

NOTE: EX. SUPPORTS TO BE RE-USED IN PLACE.



(15) OVERHEAD SIGN SUPPORT
STA. 155+80 I-471 NORTHBOUND
TYPE 7.3 DESIGN No.1 MOD. BRACKETS TYPE Ya
TOTAL SIGN AREA = 192.5 S.F.

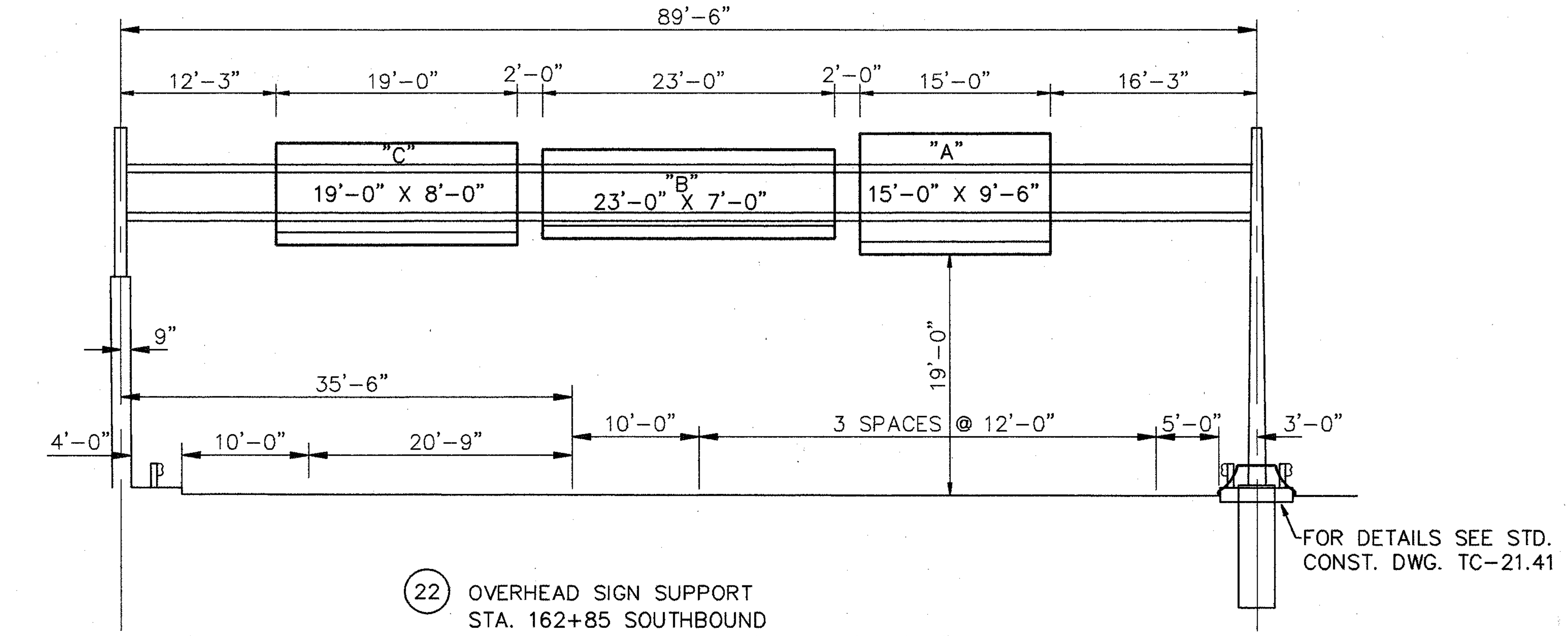
"A"

11'-0" x 8'-6" = 93.5 S.F.
SPACING = 16 3/8", 99 3/8", 16 1/4"
No. OF BRACKETS 2 Ht = 9'-6"
FIXTURES 1 LUMINAIRE @ 175W

"B"

11'-0" x 7'-0" = 77 S.F.
SPACING = 16 3/8", 99 3/8", 16 1/4"
No. OF BRACKETS 2 Ht = 8'-0"
FIXTURES 1 LUMINAIRE @ 175W

NOTE: EX. SUPPORTS TO BE RE-USED IN PLACE.



(22) OVERHEAD SIGN SUPPORT
STA. 162+85 SOUTHBOUND
I-129 No. 7.5 DESIGN 4 (MODIFIED) 89'-6" SPAN
TOTAL SIGN AREA = 455.5 S.F.

"C"

19'-0" X 7'-0" = 133 S.F.
SPACING = 14 5/8", 99 3/8", 99 3/8", 14 5/8"
No. OF BRACKETS 3 Ht 8'-0"
FIXTURES 2 LUMINAIRES @ 175W

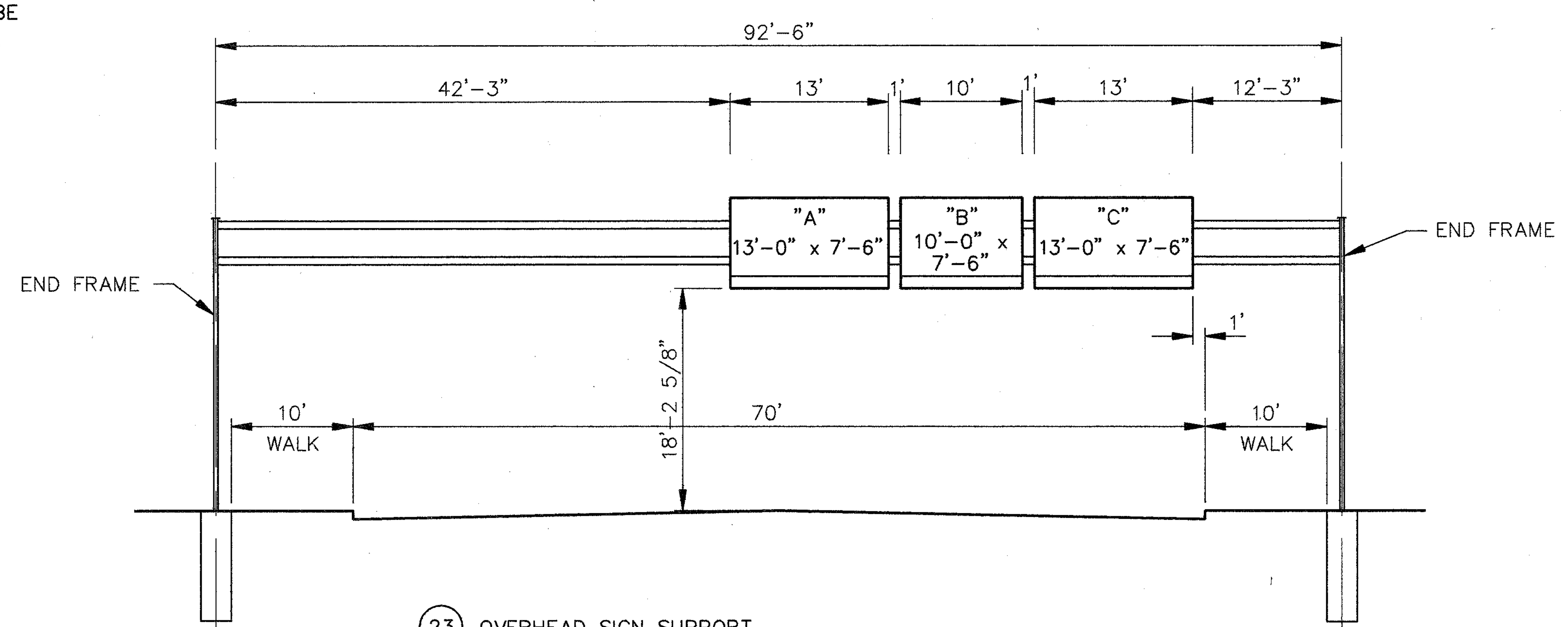
"B"

23'-0" X 6'-0" = 138 S.F.
SPACING = 13", 75 3/8", 75 3/8", 99 3/8", 12 7/8"
No. OF BRACKETS 4 Ht 7'-0"
FIXTURES 3 LUMINAIRES @ 175W

"A"

15'-0" X 8'-6" = 127.5 S.F.
SPACING = 14 5/8", 75 3/8", 75 3/8", 14 5/8"
No. OF BRACKETS 3 Ht 9'-6"
FIXTURES 2 LUMINAIRES @ 175W

NOTE: EX. SUPPORTS TO BE RE-USED IN PLACE.



(23) OVERHEAD SIGN SUPPORT
STA. 18+35 LIBERTY ST.
TYPE 7.3 DESIGN No.1 MOD. BRACKETS TYPE Ya
TOTAL SIGN AREA = 270 S.F.

"A"

13'-0" x 6'-6" = 84.5 S.F.
SPACING = 6", 72", 72", 6"
No. OF BRACKETS 3 Ht = 7'-6"
FIXTURES 2 LUMINAIRES @ 175W

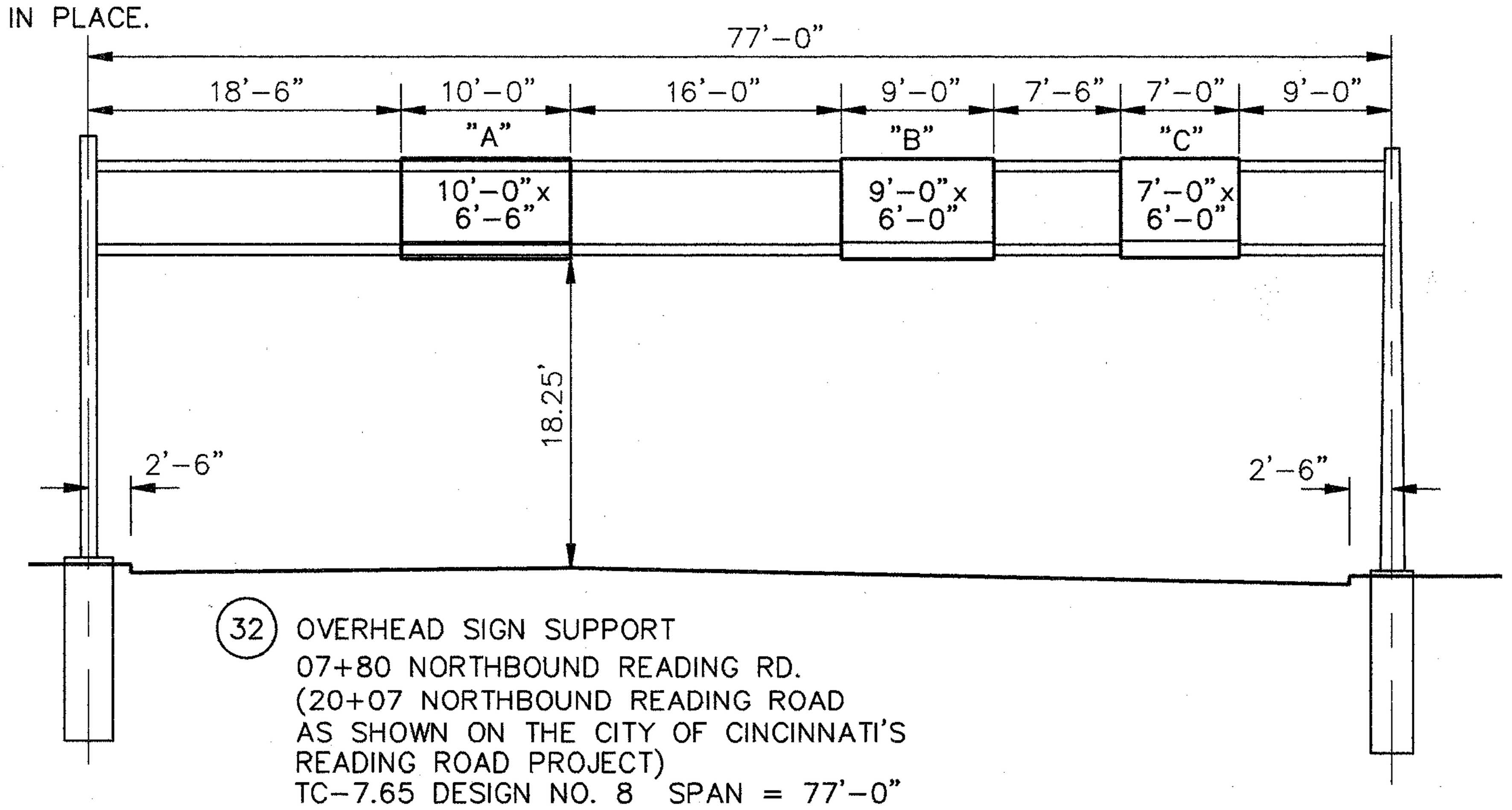
"B"

10'-0" x 6'-6" = 65 S.F.
SPACING = 10 3/8", 99 3/8", 10 1/4"
No. OF BRACKETS 2 Ht = 7'-6"
FIXTURES 1 LUMINAIRE @ 175W

"C"

13'-0" x 6'-6" = 84.5 S.F.
SPACING = 6", 72", 72", 6"
No. OF BRACKETS 3 Ht = 7'-6"
FIXTURES 2 LUMINAIRES @ 175W

NOTE: EX. SUPPORTS TO BE RE-USED IN PLACE.



(32) OVERHEAD SIGN SUPPORT
07+80 NORTHBOUND READING RD.
(20+07 NORTHBOUND READING ROAD AS SHOWN ON THE CITY OF CINCINNATI'S READING ROAD PROJECT)
TC-7.65 DESIGN NO. 8 SPAN = 77'-0"
TOTAL SIGN AREA = 161 S.F.

"A"

10'-0"X 5'-6" = 55 S.F.
SPACING = 10 3/8", 99 3/8", 10 1/4"
No. OF BRACKETS 2 Ht 6'-6"
FIXTURES 1 LUMINAIRE @ 175W

"B"

9'-0"X 5'-0" = 45 S.F.
SPACING = 16 3/8", 75 3/8", 16 1/4"
No. OF BRACKETS 2 Ht 6'-0"
FIXTURES 1 LUMINAIRE @ 100W

"C"

7'-0"X 5'-0" = 35 S.F.
SPACING = 6", 72", 6"
No. OF BRACKETS 2 Ht 6'-0"
FIXTURES 1 LUMINAIRE @ 100W

5 0 5 10 15 20
SCALE: 1/8" = 1'-0"

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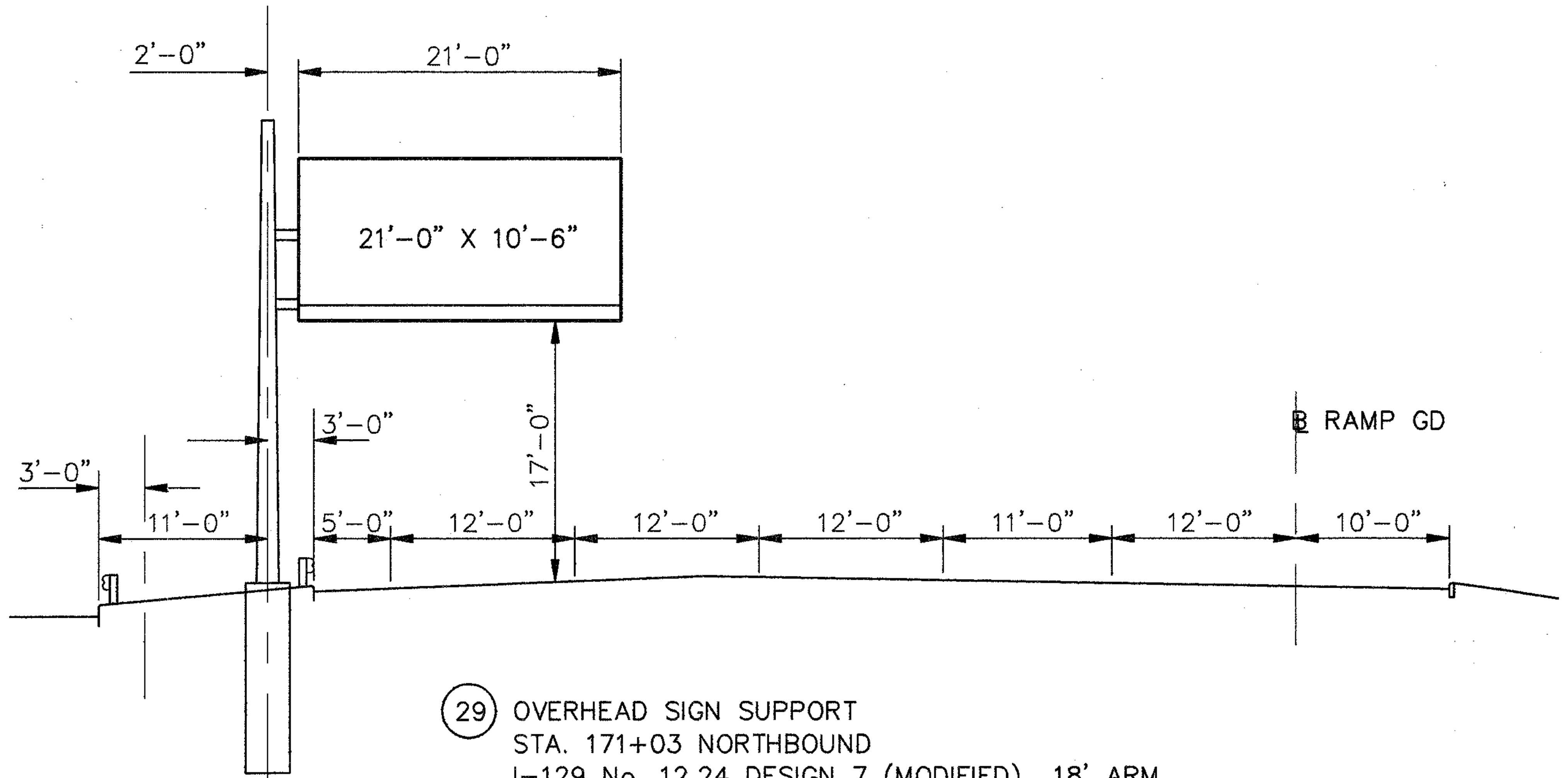
GUIDE SIGN ELEVATION VIEWS

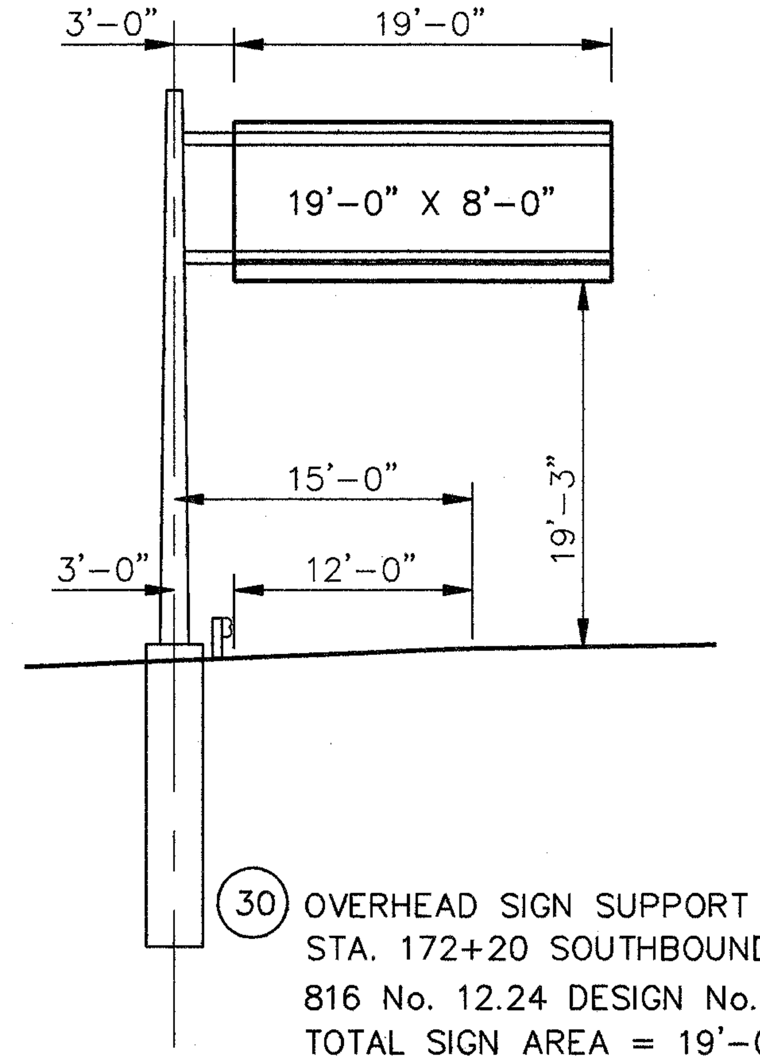
CALC. BY [illegible] DATE 9/23/93 CHKD. BY [illegible] DATE [illegible]	HAM–71–1.30/9.00	OHIO F.H.W.A. REGION 5	251/401

NOTE: EX. SUPPORTS TO BE RE-USED IN PLACE.



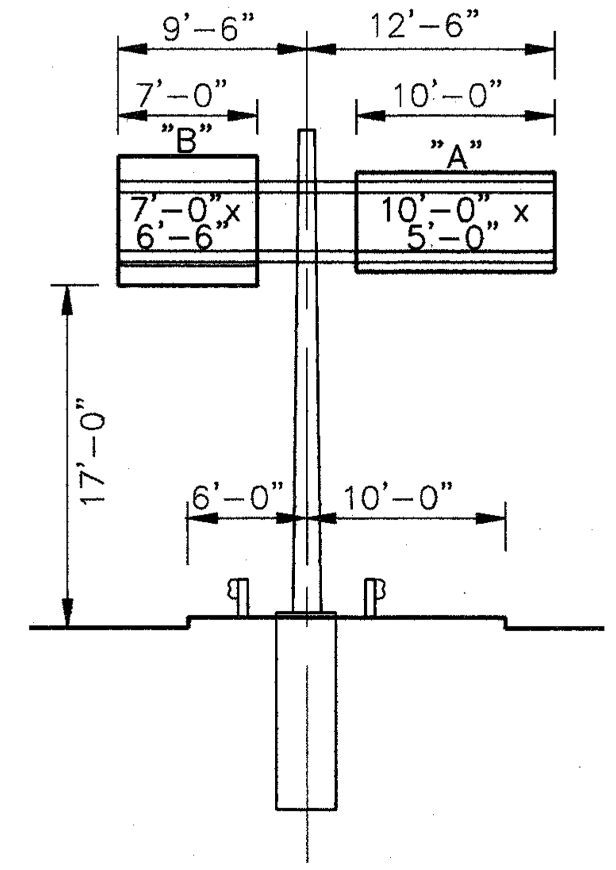
(29) OVERHEAD SIGN SUPPORT
STA. 171+03 NORTHBOUND
I–129 No. 12.24 DESIGN 7 (MODIFIED) 18' ARM
TOTAL SIGN AREA = 21'–0" X 10'–6" = 220.5 S.F.
EFFECTIVE SIGN AREA = 21'–0" X 9'–6" = 199.5 S.F.
SPACING = 13", 75 3/8", 75 3/8", 75 3/8", 12 7/8"
No. OF BRACKETS 4 Ht. = 11'–6"
FIXTURES 3 LUMINAIRES @ 175W

NOTE: EX. SUPPORTS TO BE RE-USED IN PLACE.



(30) OVERHEAD SIGN SUPPORT
STA. 172+20 SOUTHBOUND
816 No. 12.24 DESIGN No. 5 22' ARM
TOTAL SIGN AREA = 19'–0" X 8'–0" = 152 S.F.
EFFECTIVE SIGN AREA = 19'–0" X 7'–0" = 133 S.F.
SPACING = 14 5/8", 99 3/8", 99 3/8", 14 5/8"
No. OF BRACKETS 3 Ht. = 8'–0"
FIXTURES 2 LUMINAIRES @ 175W

NOTE: EX. SUPPORTS TO BE RE-USED IN PLACE.

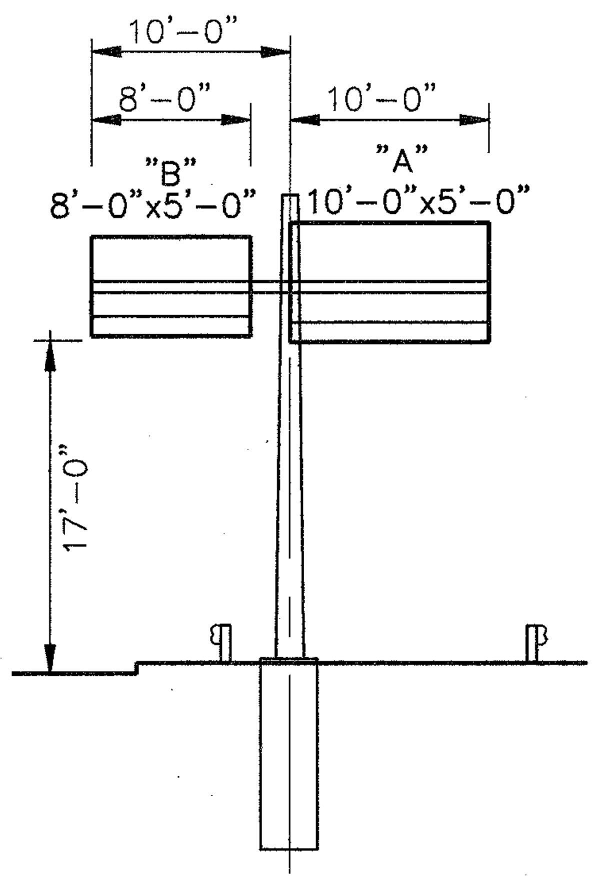


(33) OVERHEAD SIGN SUPPORT
STA. 11+39 ELSINORE PL.
I–129 No. 9.24 DESIGN 1 (MODIFIED) 9'–6" & 12'–0" ARMS
TOTAL SIGN AREA = 95.5 S.F.

"A"
10'–0" X 4'–0" = 40 S.F.
SPACING = 10 3/8", 99 3/8", 10 1/4"
No. OF BRACKETS 2 Ht. 5'–0"
FIXTURES 1 LUMINAIRES @ 100W

"B"
7'–0" X 5'–6" = 38.5 S.F.
SPACING = 6", 72", 6"
No. OF BRACKETS 2 Ht. 6'–6"
FIXTURES 1 LUMINAIRES @ 175W

NOTE: EX. SUPPORTS TO BE RE-USED IN PLACE.

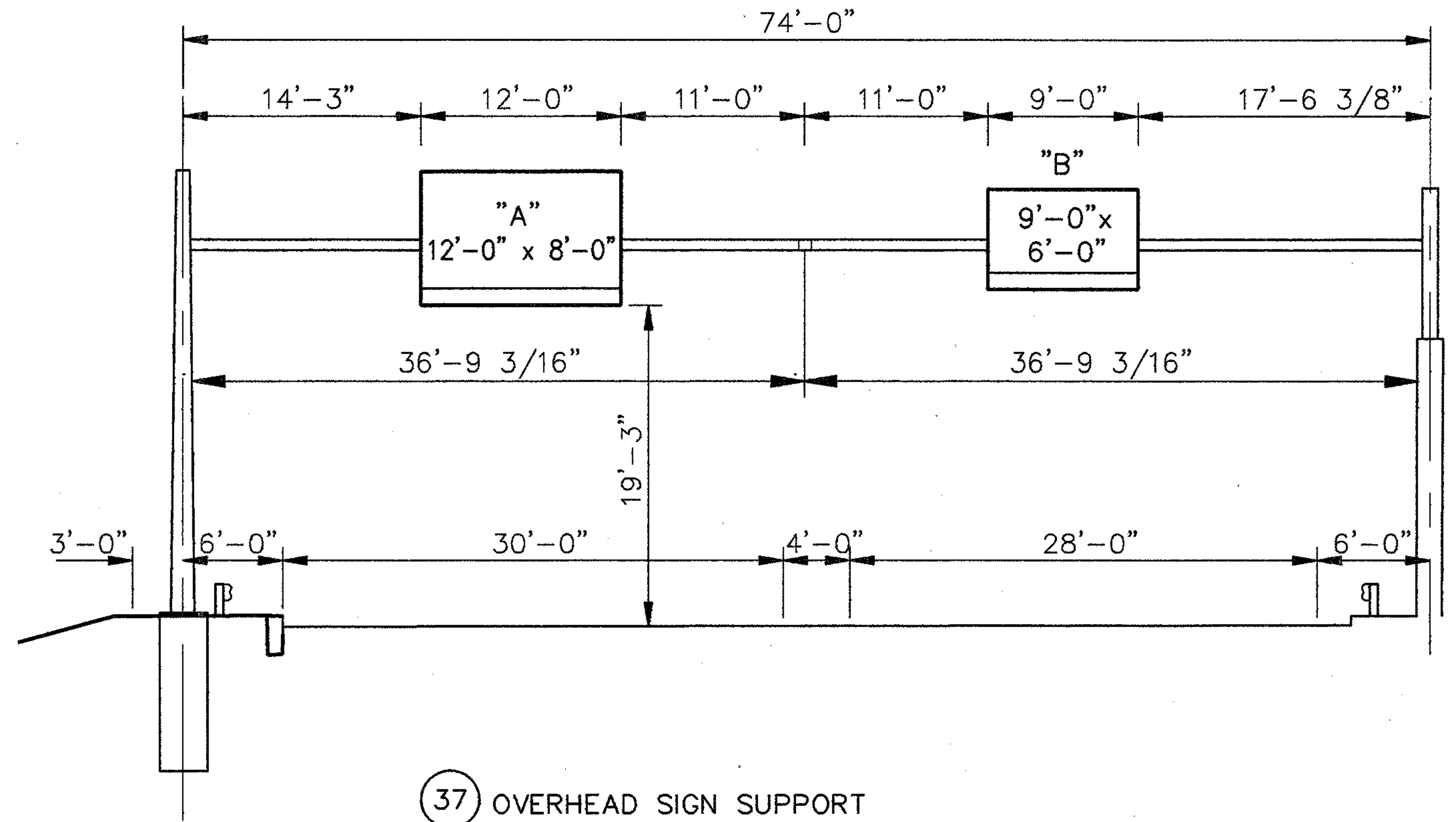


(36) OVERHEAD SIGN SUPPORT
STA. 14+20 S.B. READING RD.
I–129 No. 10.48 DESIGN 6 (MODIFIED) 18' ARMS
TOTAL SIGN AREA = 90 S.F.

"A"
10'–0" X 4'–0" = 40 S.F.
SPACING = 10 3/8", 99 3/8", 10 1/4"
No. OF BRACKETS 2 Ht. 5'–0"
FIXTURES 1 LUMINAIRES @ 100W

"B"
8'–0" X 4'–0" = 32 S.F.
SPACING = 10 3/8", 75 3/8", 10 1/4"
No. OF BRACKETS 2 Ht. 5'–0"
FIXTURES 1 LUMINAIRES @ 100W

NOTE: EX. SUPPORTS TO BE RE-USED IN PLACE.



(37) OVERHEAD SIGN SUPPORT
STA. 175+50 N.B. READING RD.
I–129 No. 7.5 DESIGN 4 (MODIFIED) 74'–9 3/8" SPAN
TOTAL SIGN AREA = 150 S.F.

"A"
12'–0" X 7'–0" = 84 S.F.
SPACING = 6", 66", 66", 6"
No. OF BRACKETS 3 Ht. 8'–0"
FIXTURES 2 LUMINAIRES @ 175W

"B"
9'–0" X 5'–0" = 45 S.F.
SPACING = 16 3/8", 75 3/8", 16 1/4"
No. OF BRACKETS 2 Ht. 6'–0"
FIXTURES 1 LUMINAIRES @ 100W

5 0 5 10 15 20
SCALE: 1/8" = 1'–0"

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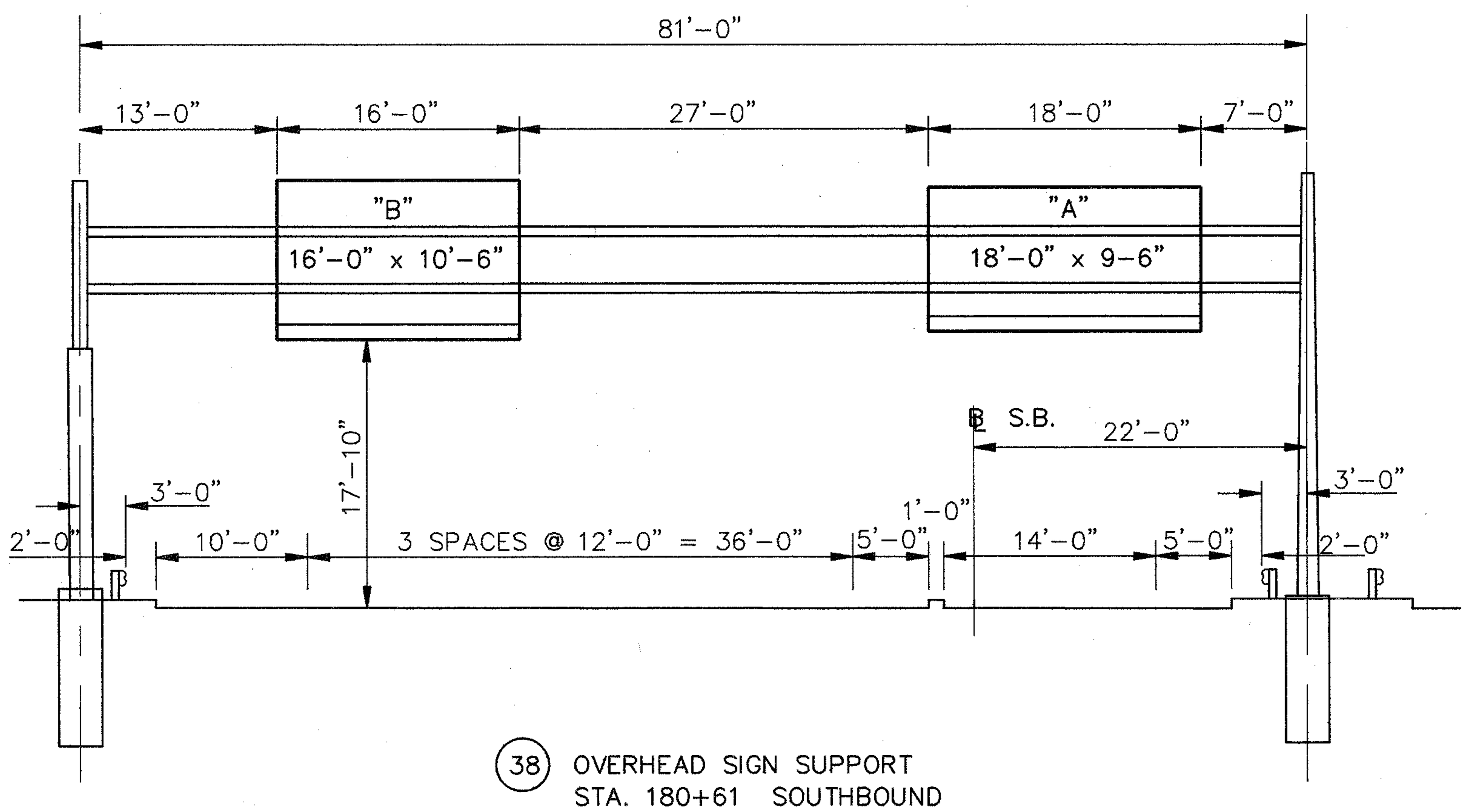
GUIDE SIGN ELEVATION VIEWS

NOTE: EX. SUPPORTS TO BE RE-USED IN PLACE.

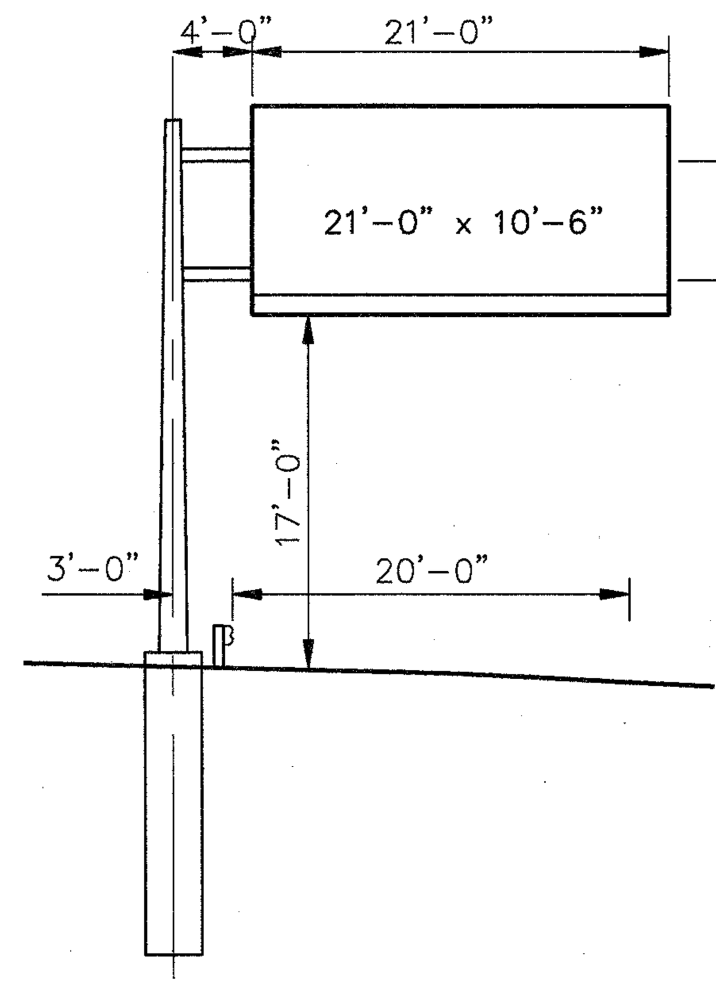


(38) OVERHEAD SIGN SUPPORT
STA. 180+61 SOUTHBOUND
I-129 No. 7.5 DESIGN 3 81'-0" SPAN
TOTAL SIGN AREA = 339 S.F.

"A"
18'-0" x 8'-6" = 153 S.F.
SPACING = 8 5/8", 99 3/8", 99 3/8", 8 5/8"
No. OF BRACKETS 3 Ht. 9'-6"
FIXTURES 2 LUMINAIRES @ 175W

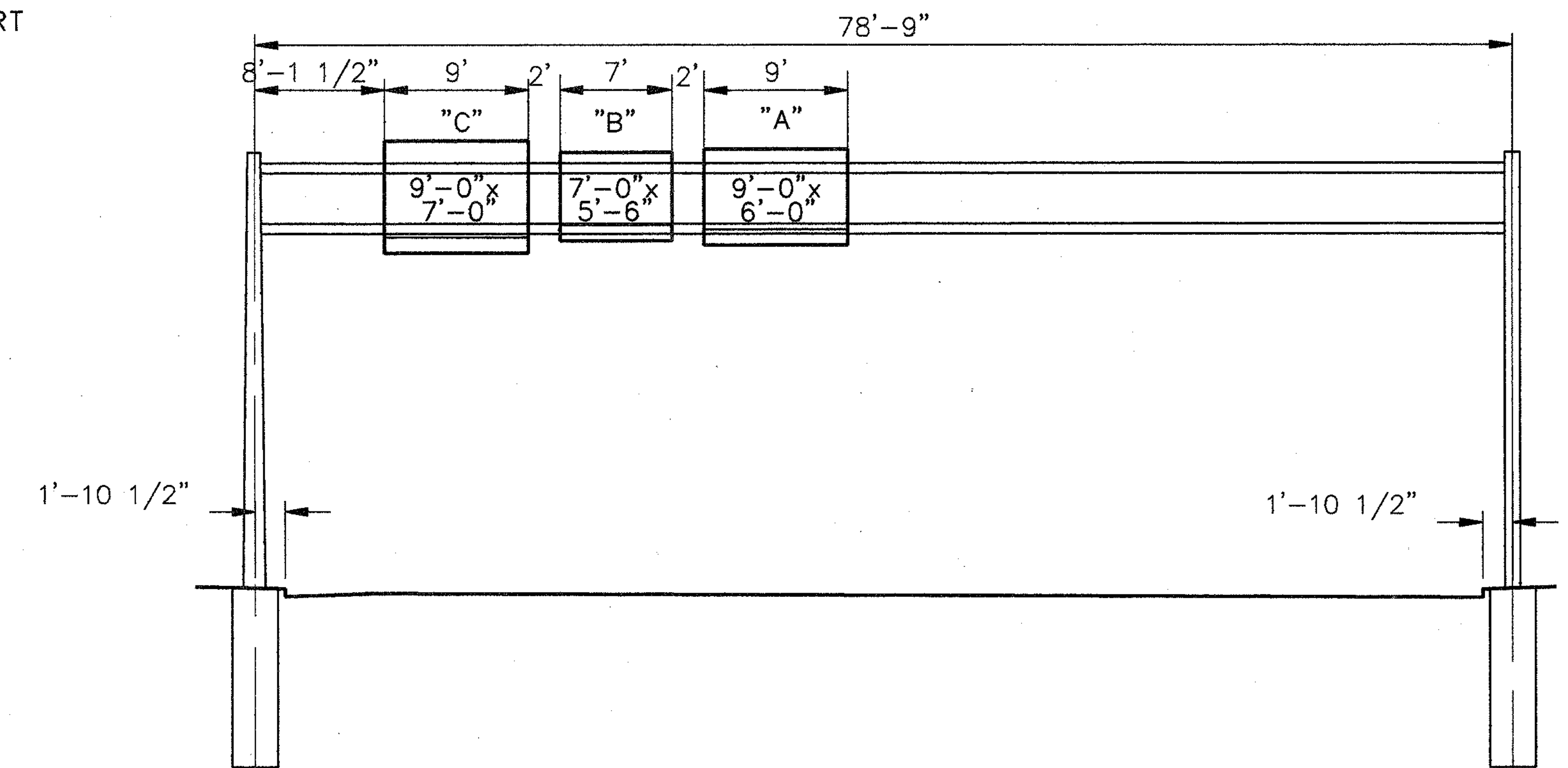
"B"
16'-0" x 9'-6" = 152 S.F.
SPACING = 8 5/8", 75 3/8", 99 3/8", 8 5/8"
No. OF BRACKETS 3 Ht. 10'-6"
FIXTURES 2 LUMINAIRES @ 175W

NOTE: EX. SUPPORT TO BE RE-USED IN PLACE.



(40) OVERHEAD SIGN SUPPORT
STA. 181+68 NORTHBOUND RAMP "RC"
TOTAL SIGN AREA = 21'-0" X 10'-6" = 220.5 S.F.
EFFECTIVE SIGN AREA = 21'-0" X 9'-6" = 199.5 S.F.
SPACING = 13 3/8", 75 3/8", 75 3/8", 75 3/8", 12 7/8"
No. OF BRACKETS 4 Ht. 10'-6"
FIXTURES 3 LUMINAIRES @ 175W
NOTE: EXISTING SIGN SUPPORT STRUCTURE UNKNOWN DUE TO CHANGE ORDER DURING ORIGINAL CONSTRUCTION, PLANS UNAVAILABLE.

NOTE: NEW PROPOSED SUPPORT



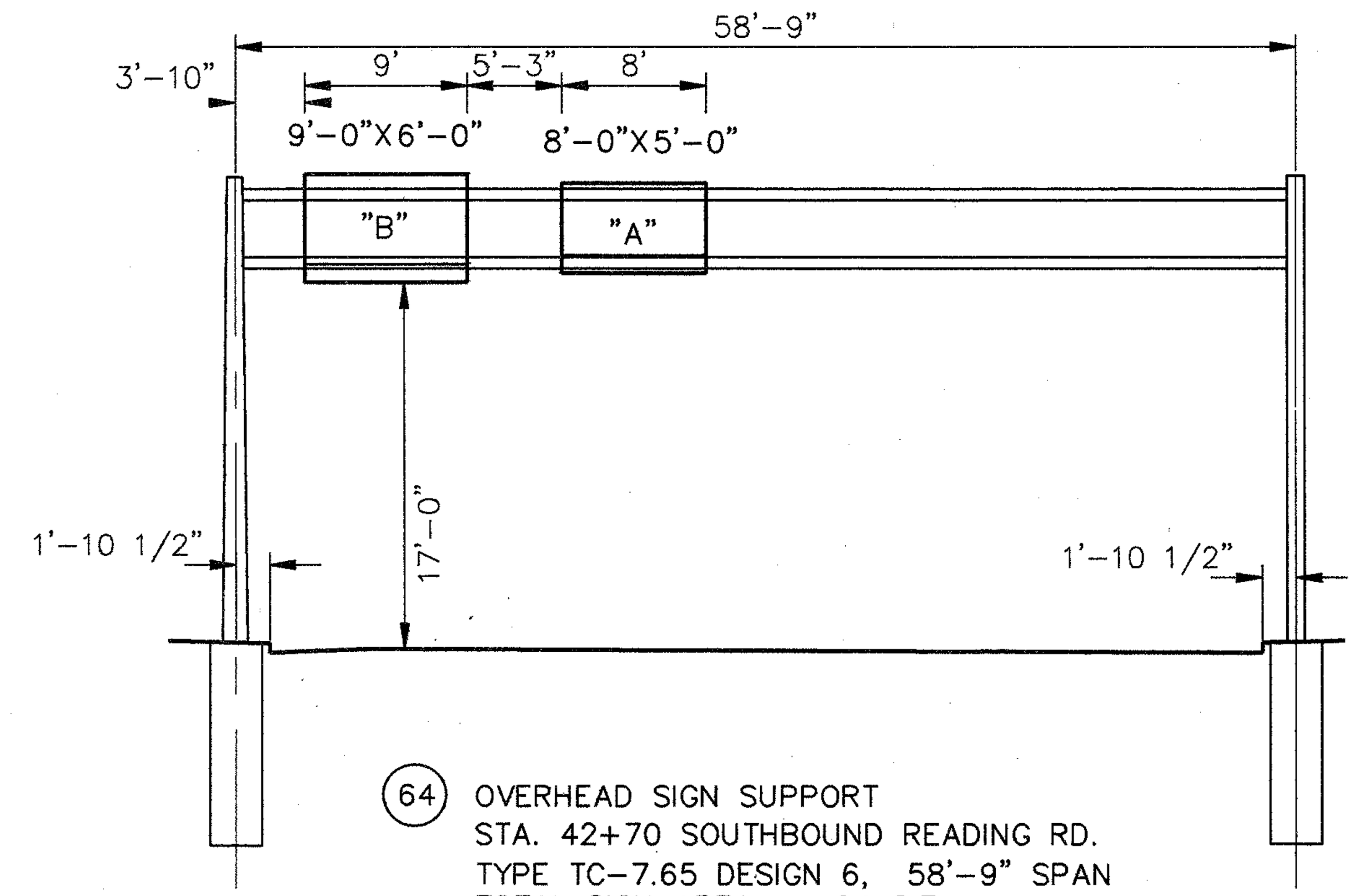
(60) OVERHEAD SIGN SUPPORT
STA. 35+53 NORTHBOUND READING RD.
TYPE TC-7.65 DESIGN 8, 78'-9" SPAN
TOTAL SIGN AREA = 155.5 S.F.

"A"
9'-0"X 5'-0" = 45 S.F.
SPACING = 16 3/8", 75 3/8", 16 1/4"
No. OF BRACKETS 2 Ht. 6' TYPE Ys
LUMINAIRES = 1 @ 100W

"B"
7'-0" X 4'-6" = 31.5 S.F.
SPACING = 6", 72", 6"
No. OF BRACKETS 2 Ht. 5'-6" TYPE Ys
LUMINAIRES = 1 @ 100W

"C"
9'-0" X 6'-0" = 54 S.F.
SPACING = 16 3/8", 75 3/8", 16 1/4"
No. OF BRACKETS 2 Ht. 7'-0" TYPE Ys
LUMINAIRES = 1 @ 175W

NOTE: NEW PROPOSED SUPPORT



(64) OVERHEAD SIGN SUPPORT
STA. 42+70 SOUTHBOUND READING RD.
TYPE TC-7.65 DESIGN 6, 58'-9" SPAN
TOTAL SIGN AREA = 94 S.F.

"A"
8'-0"X 4'-0" = 32 S.F.
SPACING = 10 3/8", 75 3/8", 10 1/4"
No. OF BRACKETS 2 Ht. 5' TYPE Ys
LUMINAIRES = 1 @ 100W

"B"
9'-0" X 5'-0" = 45 S.F.
SPACING = 16 3/8", 75 3/8", 16 1/4"
No. OF BRACKETS 2 Ht. 6' TYPE Ys
LUMINAIRES = 1 @ 100W

5 0 5 10 15 20
SCALE: 1/8" = 1'-0"

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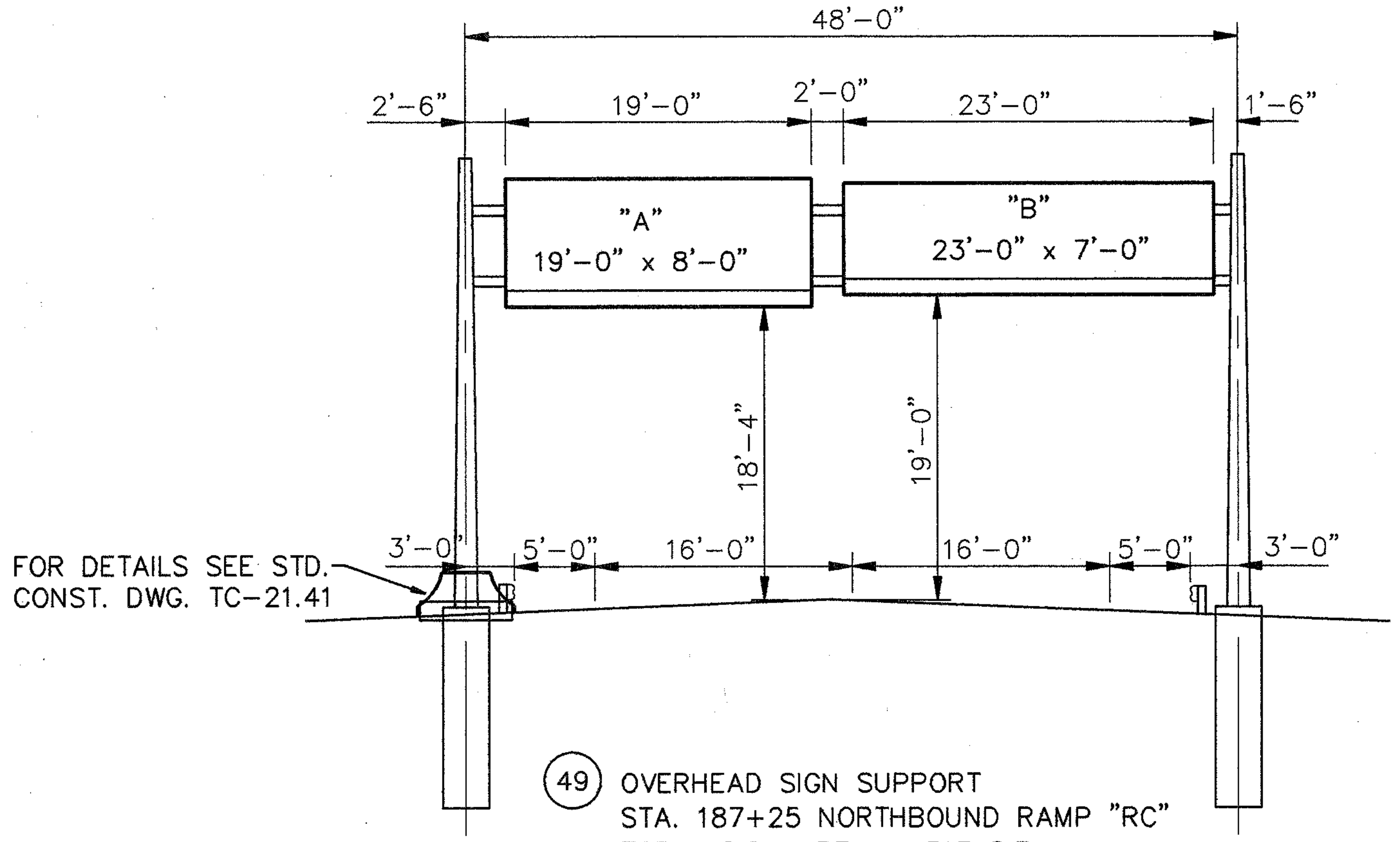
NOTE: EX. SUPPORTS TO BE RE-USED IN PLACE.

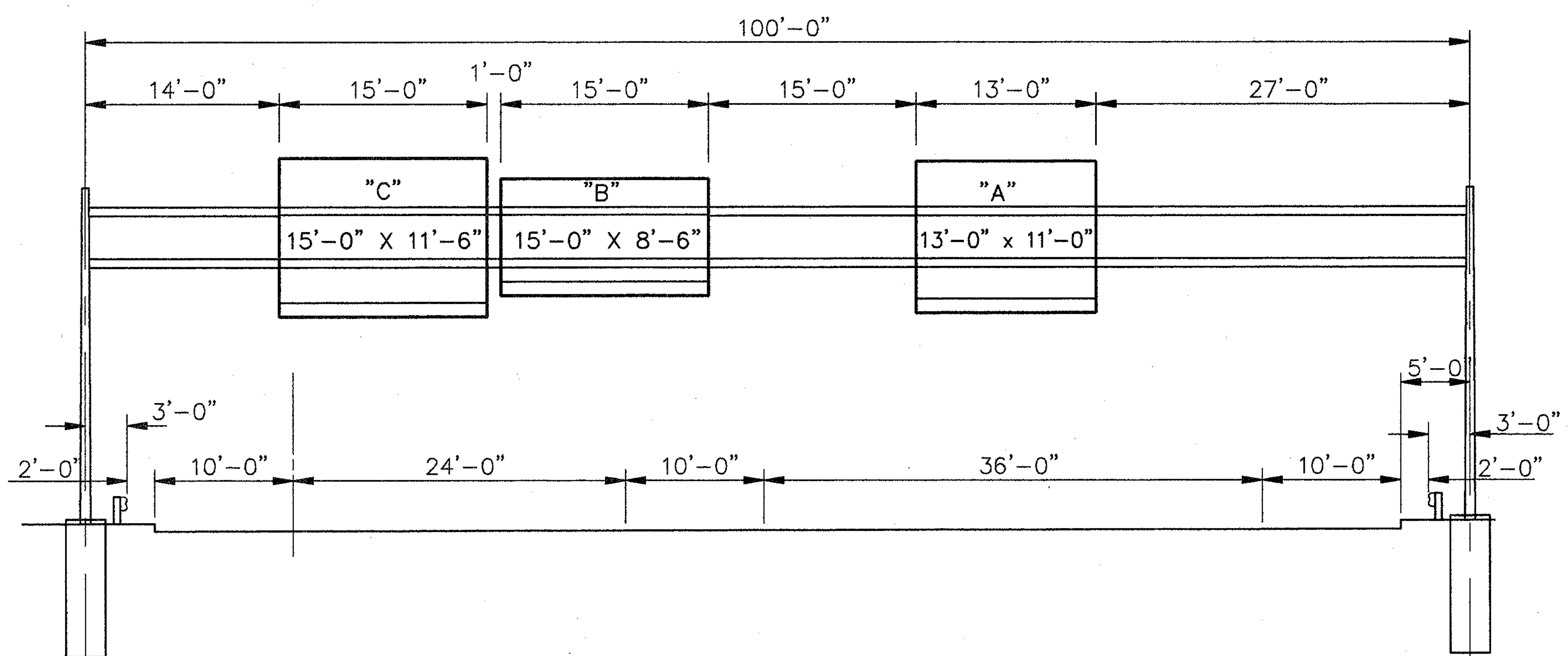


(49) OVERHEAD SIGN SUPPORT
STA. 187+25 NORTHBOUND RAMP "RC"
TOTAL SIGN AREA = 313 S.F.
NOTE: EXISTING SIGN SUPPORT STRUCTURE UNKNOWN DUE TO CHANGE ORDER DURING ORIGINAL CONSTRUCTION, PLANS UNAVAILABLE

"A"
19'-0" X 7'-0" =133 S.F.
SPACING = 14 5/8", 99 3/8", 99 3/8", 14 5/8"
No. OF BRACKETS 3 Ht. 8'-0"
FIXTURES 2 LUMINAIRES @ 175W

"B"
23'-0" X 6'-0" = 138 S.F.
SPACING = 75 5/8", 75 3/8", 99 3/8", 12 7/8"
No. OF BRACKETS 4 Ht. 7'-0"
FIXTURES 3 LUMINAIRES @ 175W

NOTE: EX. SUPPORTS TO BE RE-USED IN PLACE.



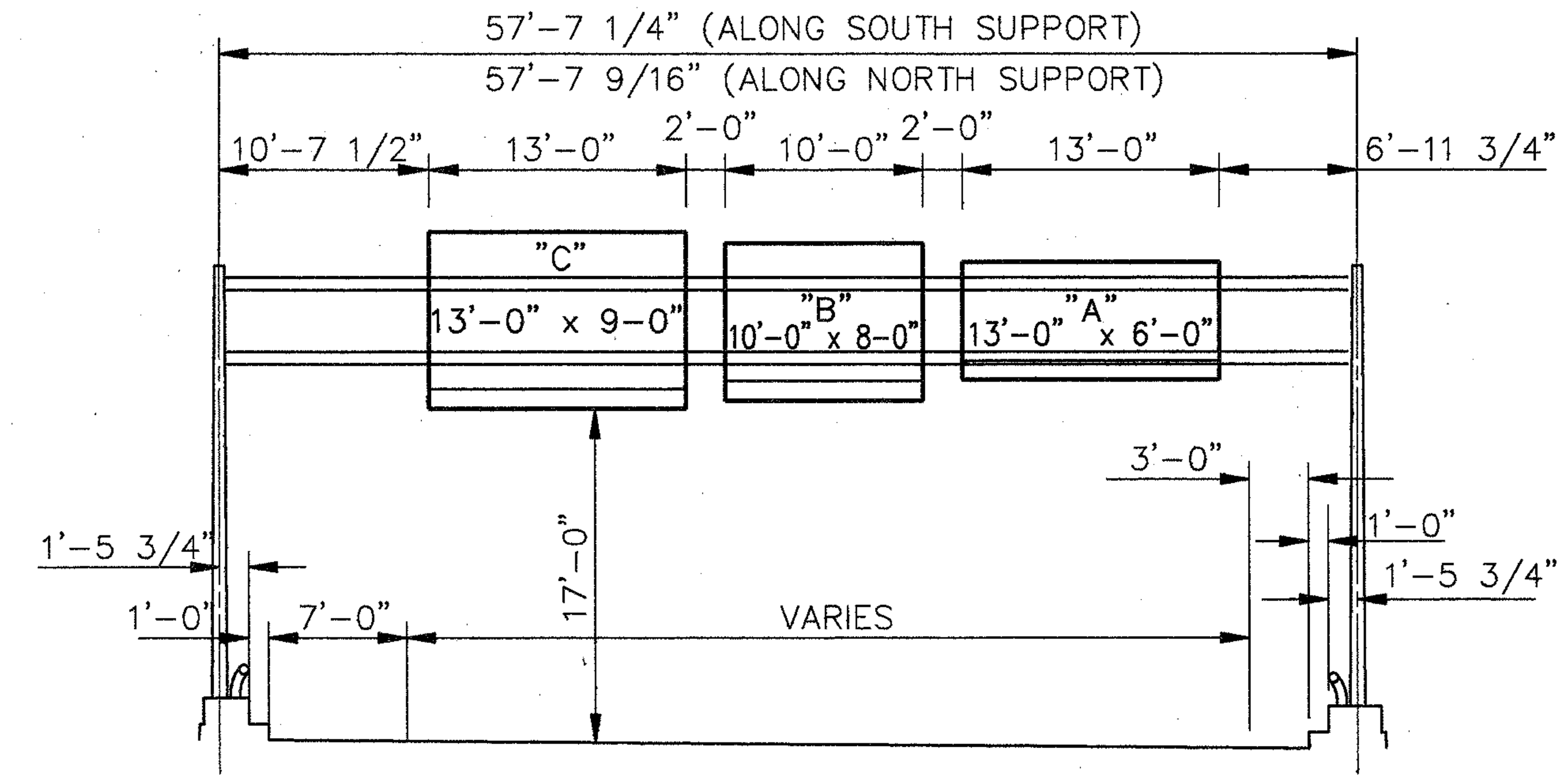
(61) OVERHEAD SIGN SUPPORT
STA. 198+00 SOUTHBOUND
I-129 No. 7.5 DESIGN 3 100'-0" SPAN
TOTAL SIGN AREA = 443 S.F.

"C"
15'-0" X 10'-6" = 157.5 S.F.
SPACING = 14 5/8", 75 3/8", 75 3/8", 14 5/8"
No. OF BRACKETS 3 Ht. 11'-6"
FIXTURES 2 LUMINAIRES @ 250W

"B"
15'-0" X 7'-6" = 112.5 S.F.
SPACING = 14 5/8", 75 3/8", 75 3/8", 14 5/8"
No. OF BRACKETS 3 Ht. 8'-6"
FIXTURES 2 LUMINAIRES @ 175W

"A"
13'-0" X 10'-0" = 130 S.F.
SPACING = 6", 72", 72", 6"
No. OF BRACKETS 3 Ht. 11'-0"
FIXTURES 2 LUMINAIRES @ 175W

NOTE: EX. SUPPORTS TO BE RE-USED IN PLACE.



(53) OVERHEAD SIGN SUPPORT
STA. 192+09 RAMP RA
I-129 No. 7.3 DESIGN 2 MODIFIED
TOTAL SIGN AREA = 275 S.F.

"C"
13'-0" x 8'-0" = 104 S.F.
SPACING = 6", 72", 72", 6"
No. OF BRACKETS 3 Ht. 10'-6"
FIXTURES 2 LUMINAIRES @ 175W

"B"
10'-0" x 7'-0" = 70 S.F.
SPACING = 10 3/8", 99 3/8", 10 1/4"
No. OF BRACKETS 2 Ht. 8'-0"
FIXTURES 1 LUMINAIRE @ 175W

"A"
13'-0" x 5'-0" = 65 S.F.
SPACING = 6", 72", 72", 6"
No. OF BRACKETS 3 Ht. 6'-0"
FIXTURES 2 LUMINAIRES @ 100W

5 0 5 10 15 20
SCALE: 1/8" = 1'-0"

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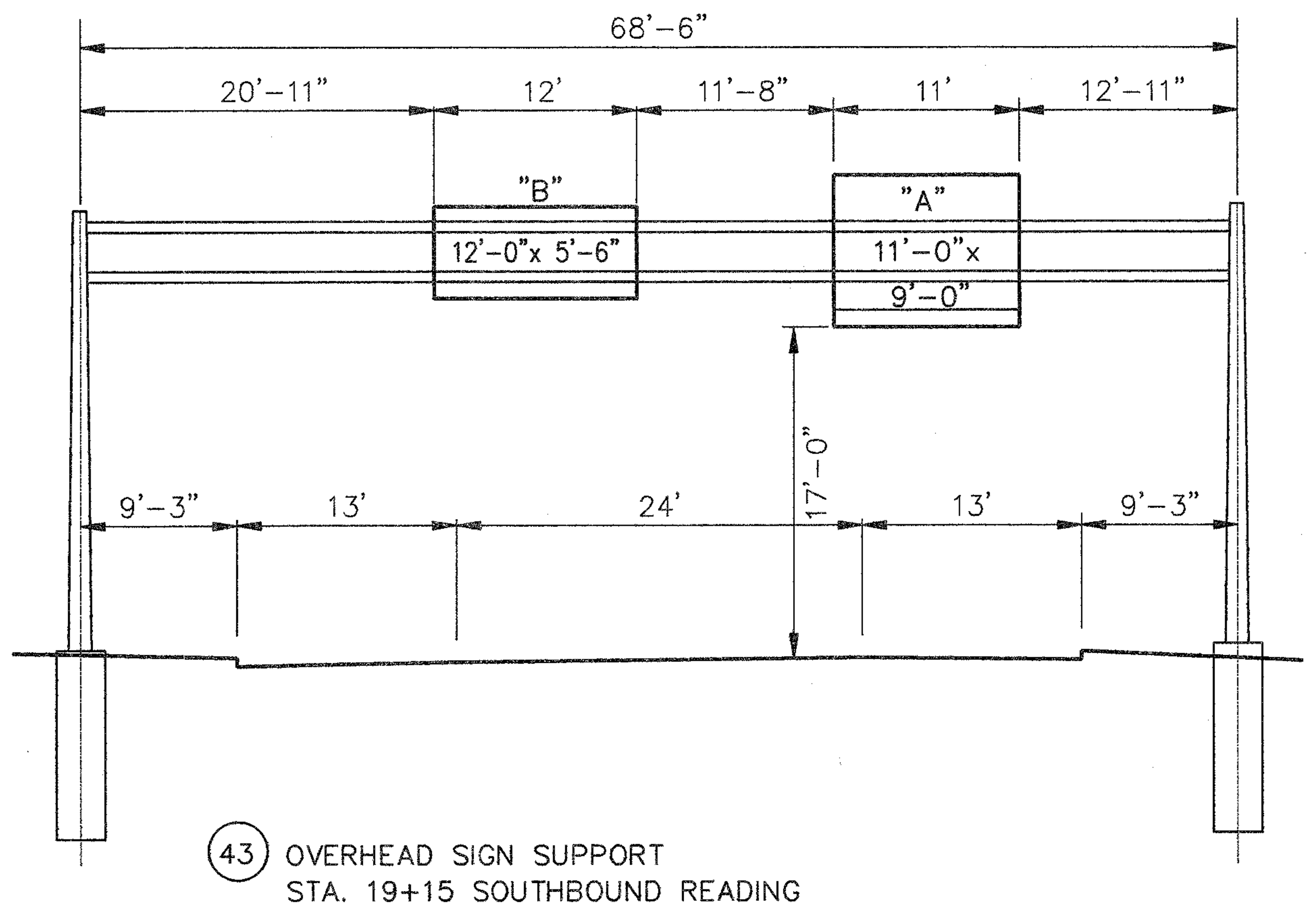
NOTE: NEW PROPOSED SUPPORT

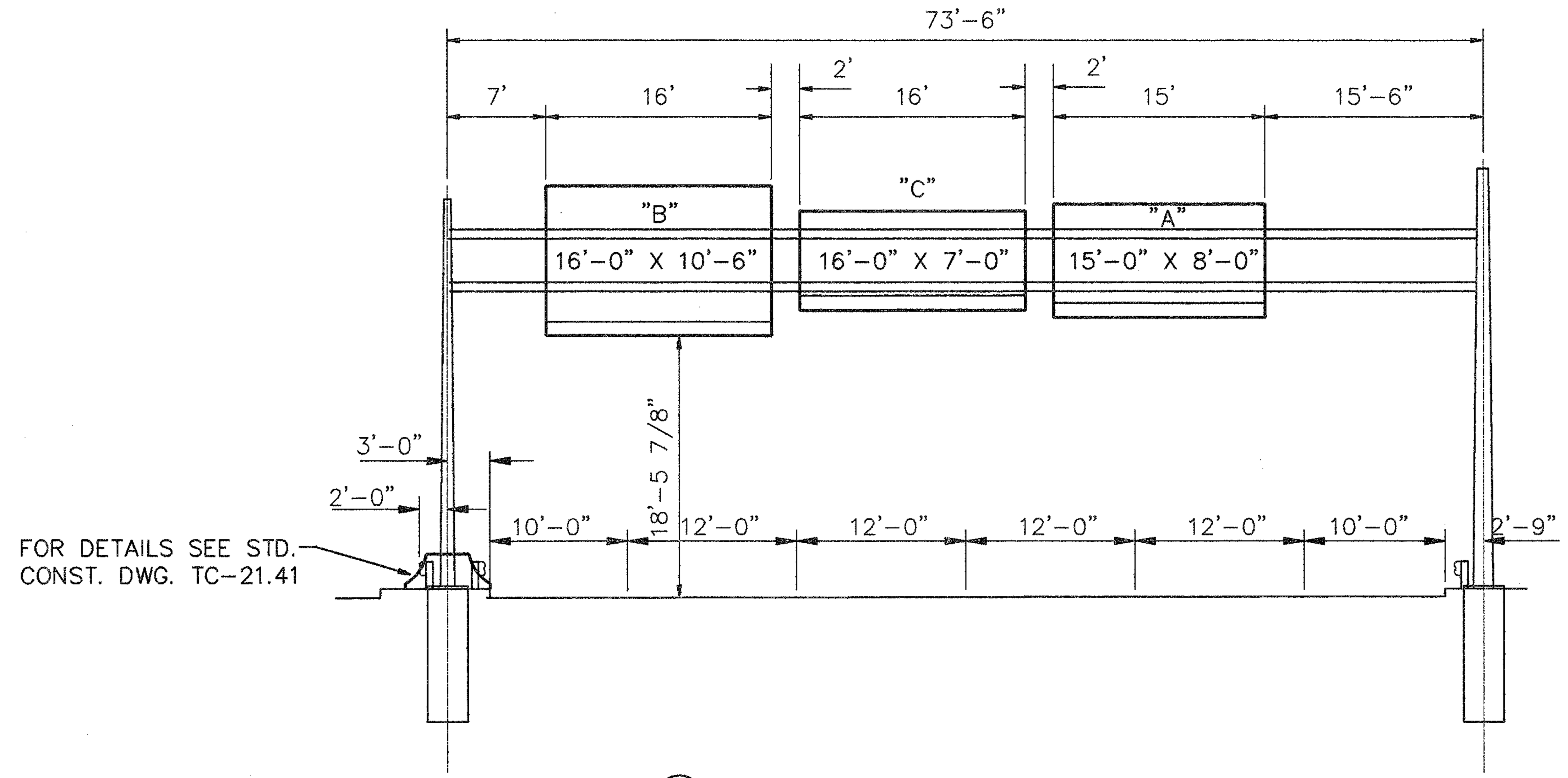


(43) OVERHEAD SIGN SUPPORT
STA. 19+15 SOUTHBOUND READING
TYPE TC-7.65 DESIGN NO. 6
TOTAL SIGN AREA = 165 S.F.

"B"
12'-0" X 4'-6" = 54 S.F.
SPACING = 6", 66", 66", 6"
No. OF BRACKETS 3 Ht. 5'-6" TYPE Ya
LUMINAIRES = 2 @ 100W

"A"
11'-0" X 8'-0" = 88 S.F.
SPACING = 16 3/8", 99 3/8", 16 1/4"
No. OF BRACKETS 2 Ht. 9'-0" TYPE Ya
LUMINAIRE = 1 @ 175W

NOTE: EX. SUPPORTS TO BE
RE-USED IN PLACE.



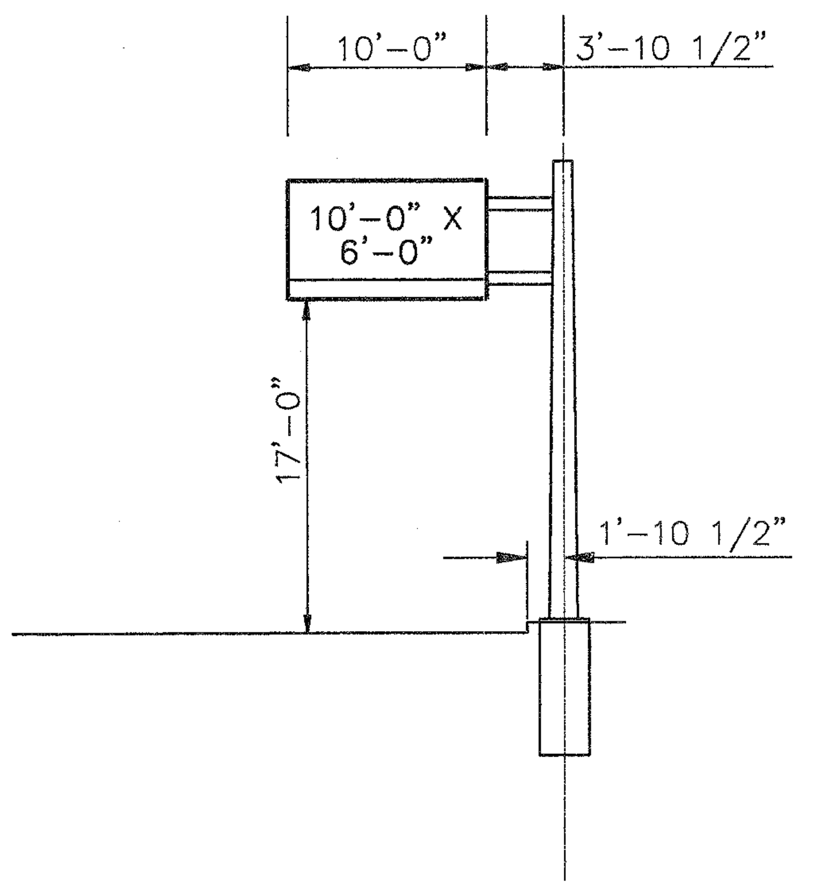
(67) OVERHEAD SIGN SUPPORT
STA. 212+52 SOUTHBOUND
I-129 No. 7.5 DESIGN 2 MODIFIED
TOTAL SIGN AREA = 400 S.F.

"A"
15'-0" X 7'-0" = 105 S.F.
SPACING = 14 5/8", 75 3/8", 75 3/8", 14 5/8"
No. OF BRACKETS 3 Ht. 8'-0"
FIXTURES 2 LUMINAIRES @ 175W

"B"
16'-0" X 9'-6" = 152 S.F.
SPACING = 8 5/8", 75 3/8", 99 3/8", 8 5/8"
No. OF BRACKETS 3 Ht. 10'-6"
FIXTURES 2 LUMINAIRES @ 175W

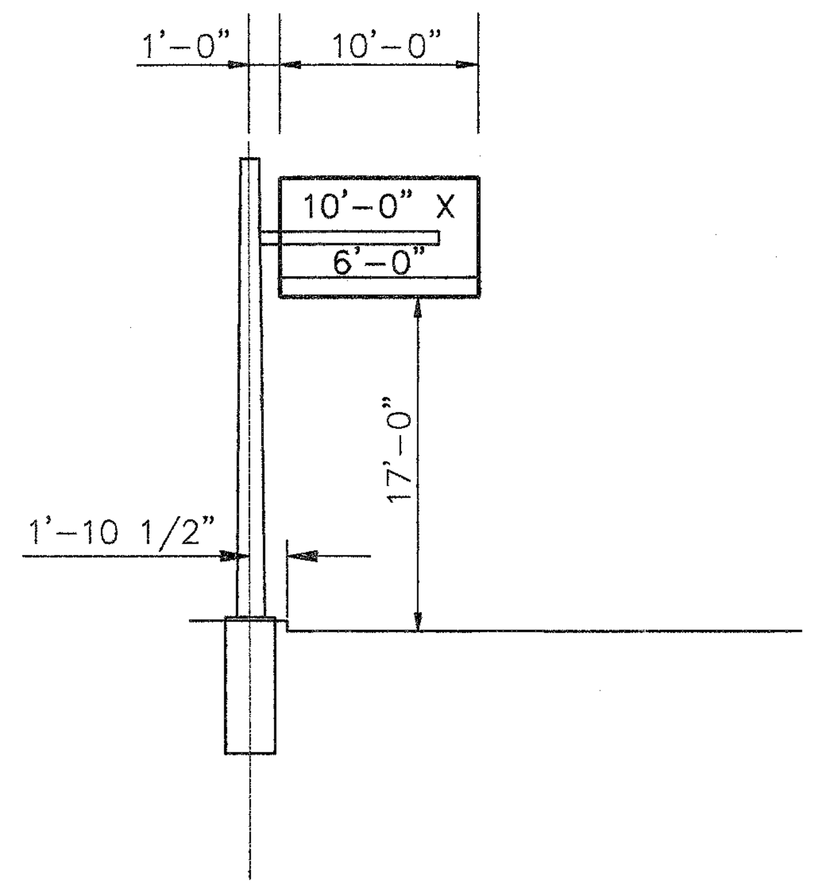
"C"
16'-0" X 6'-0" = 96 S.F.
SPACING = 8 5/8",75 3/8", 99 3/8", 14 5/8"
No. OF BRACKETS 3 Ht. 7'-0"
FIXTURES 2 LUMINAIRES @ 175W

NOTE: EX. SUPPORT TO BE
RE-USED IN PLACE.



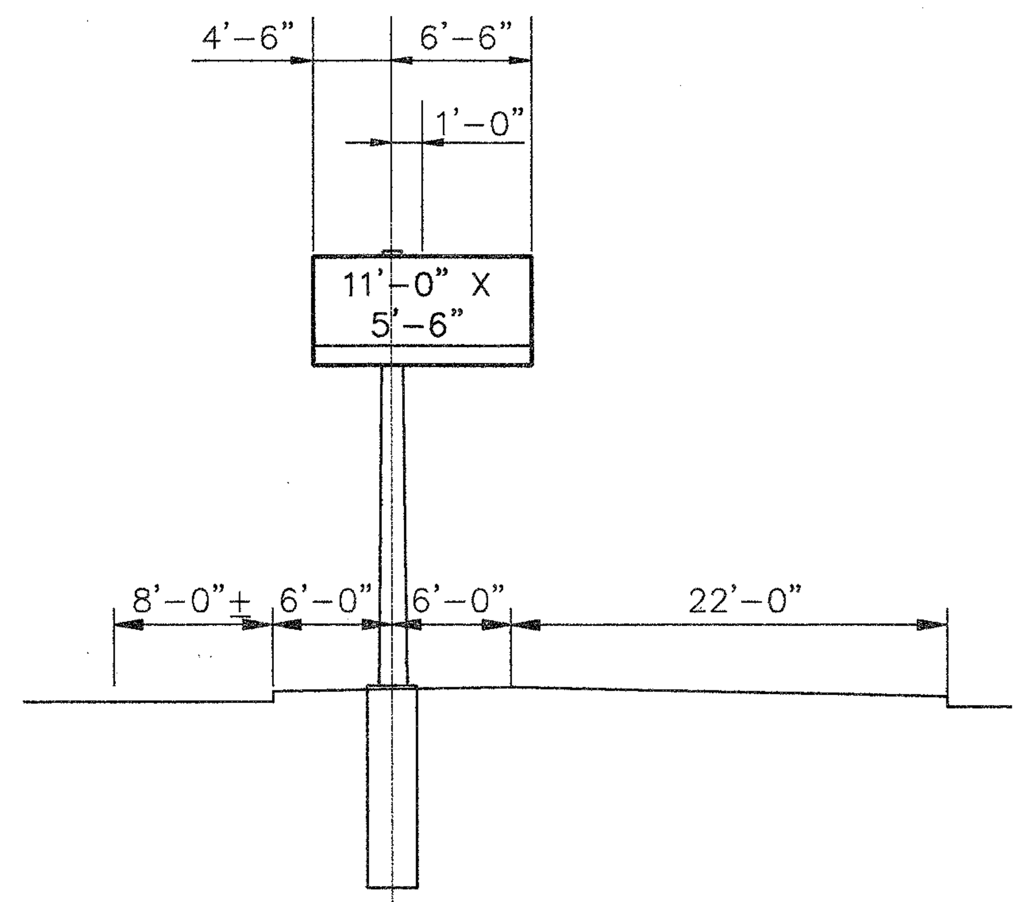
(50A) STA. 9+93 DORCHESTER ST.
TOTAL SIGN AREA = 10'-0" X 6'-0" = 60 S.F.
EFFECTIVE SIGN AREA = 10'-0" X 5'-0" = 50 S.F.
I-129 No. 11.08 DESIGN 1 MODIFIED 12'-9" ARMS
SPACING = 10 3/8", 99 3/8", 10 1/4"
No. OF BRACKETS 2 Ht. 6'-0"
FIXTURES 1 LUMINAIRES @ 100W

NOTE: EX. SUPPORT TO BE
RE-USED IN PLACE.



(62A) STA. 19+31 EDEN PARK ENTRANCE
TOTAL SIGN AREA = 10'-0" X 6'-0" = 60 S.F.
EFFECTIVE SIGN AREA = 10'-0" X 5'-0" = 50 S.F.
I-129 No. 11.08 DESIGN 1 MODIFIED 9'-0" ARM
SPACING = 10 3/8", 99 3/8", 10 1/4"
No. OF BRACKETS 2 Ht. 6'-0"
FIXTURES 1 LUMINAIRES @ 100W

NOTE: EX. SUPPORT TO BE
RE-USED IN PLACE.



(110) STA. 17+75 NORTHBOUND GILBERT AVE.
TOTAL SIGN AREA = 11'-0" X 5'-6" = 60.5 S.F.
EFFECTIVE SIGN AREA = 11'-0" X 4'-6" = 49.5 S.F.
I-129 No. 9.24 DESIGN 1 MODIFIED 14'-0" ARM
SPACING = 16 3/8", 99 3/8", 16 1/4"
No. OF BRACKETS 2 Ht. 5'-6"
FIXTURES 1 LUMINAIRES @ 100W

5 0 5 10 15 20
SCALE: 1/8" = 1'-0"

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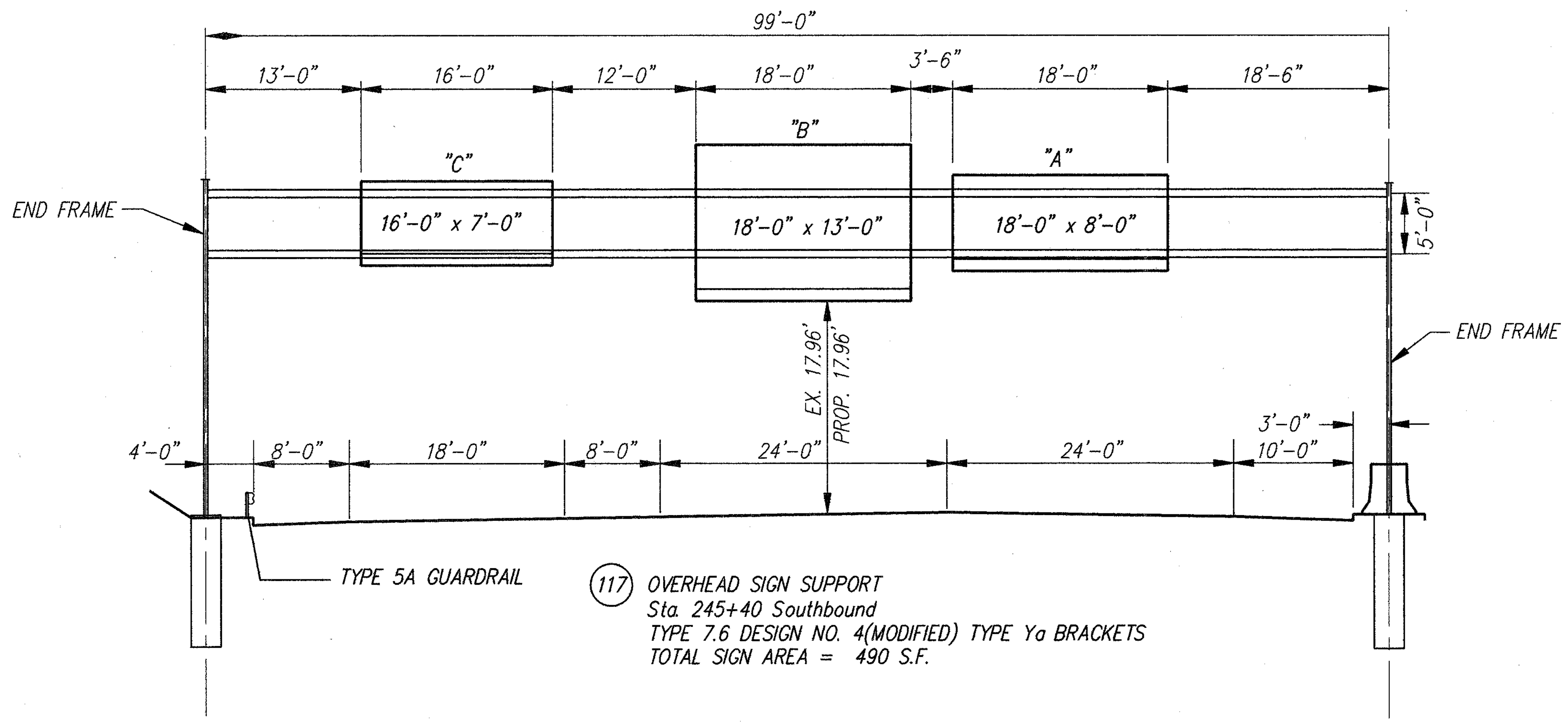
GUIDE SIGN ELEVATION VIEWS

NOTE: EX. SUPPORTS TO BE
RE-USED IN PLACE.
EXISTING LIGHTING
TO BE RE-USED.



(117) OVERHEAD SIGN SUPPORT
Sta. 245+40 Southbound
TYPE 7.6 DESIGN NO. 4(MODIFIED) TYPE Ya BRACKETS
TOTAL SIGN AREA = 490 S.F.

"C"

16'-0" x 6'-0" = 96 S.F.
No. of Brackets = 3 Ht = 7'-0"
Spacing = 8 5/8", 75 3/8", 99 3/8", 8 5/8"

"B"

18'-0" x 12'-0" = 216 S.F.
No. of Brackets = 3 Ht = 13'-0"
Spacing = 8 5/8", 99 3/8", 99 3/8", 8 5/8"

"A"

18'-0" x 7'-0" = 126 S.F.
No. of Brackets = 3 Ht = 8'-0"
Spacing = 8 5/8", 99 3/8", 99 3/8", 8 5/8"

5 0 5 10 15 20
SCALE: 1/8" = 1'-0"

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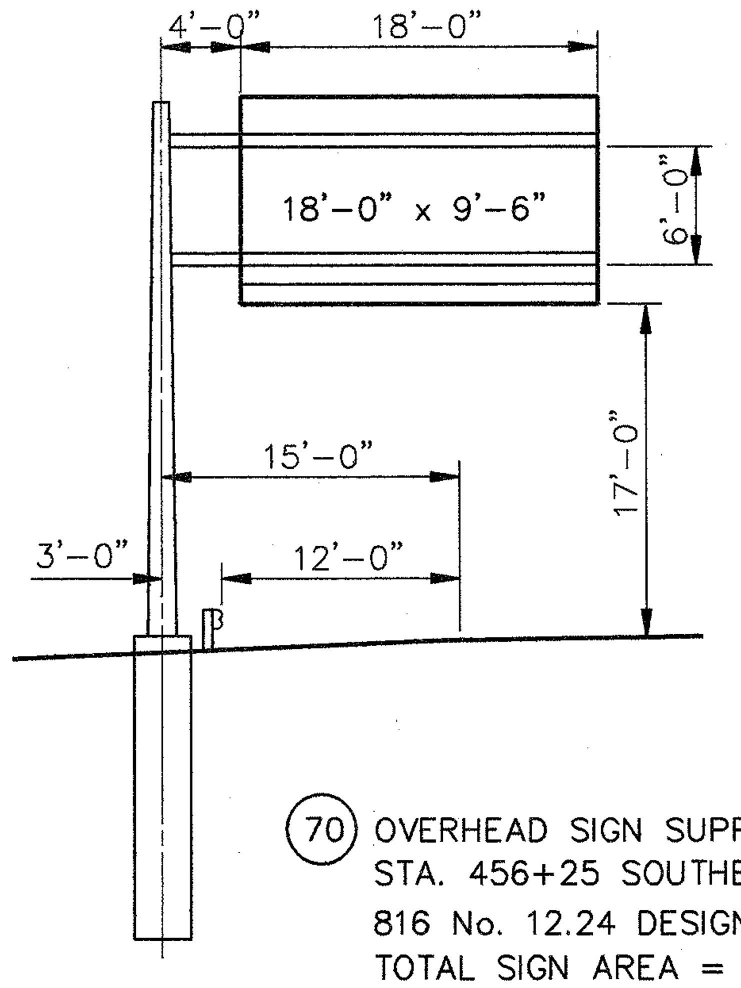
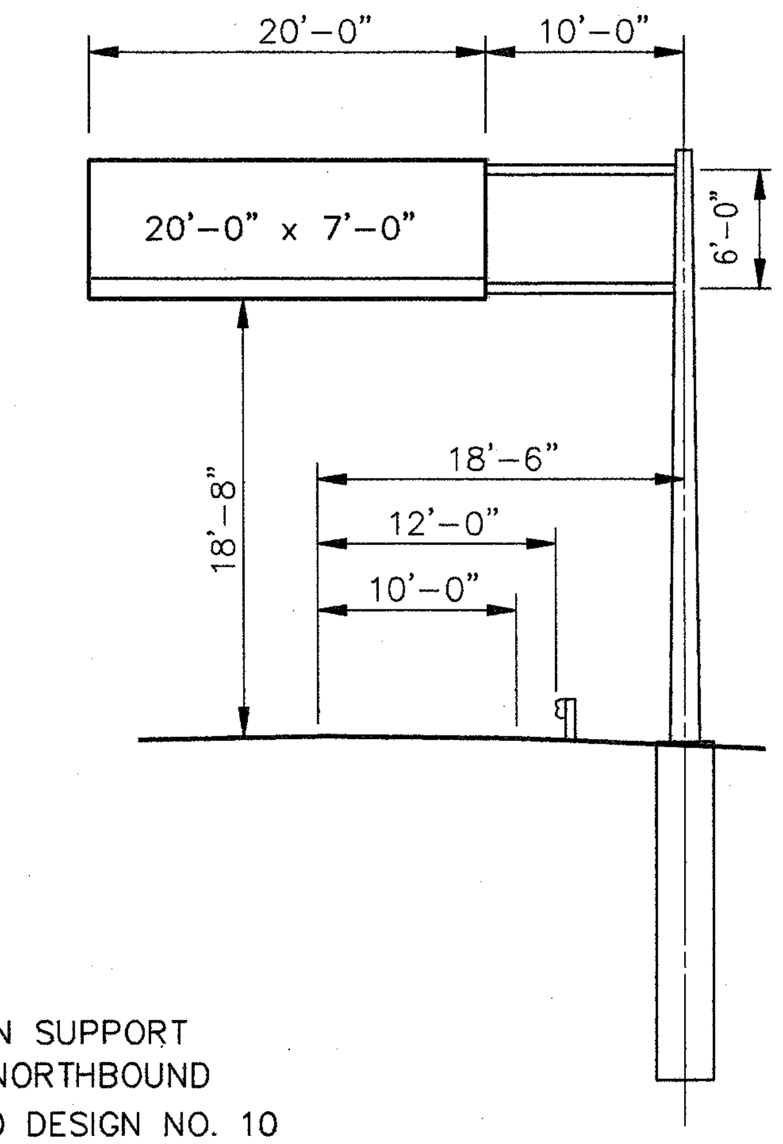
GUIDE SIGN ELEVATION VIEWS

NOTE: EX. SUPPORTS TO BE
RE-USED IN PLACE.



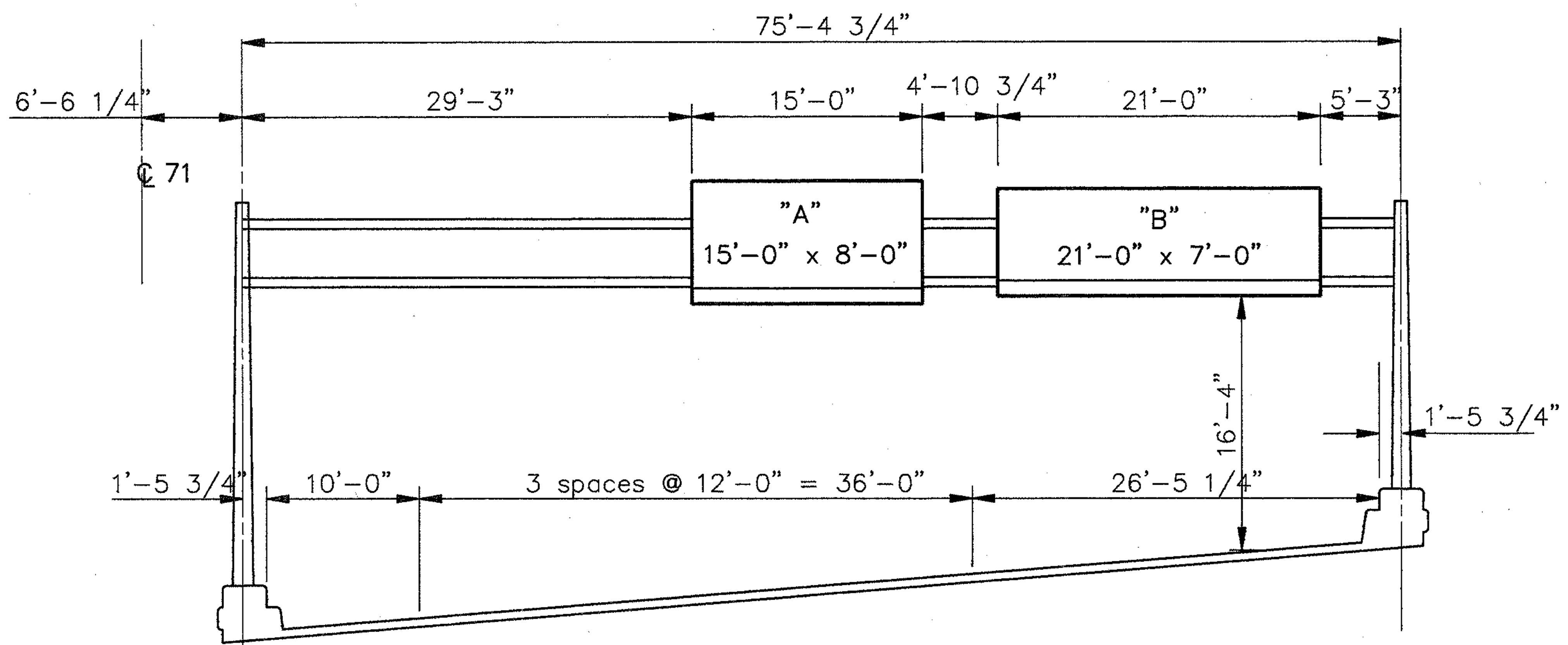
(70) OVERHEAD SIGN SUPPORT
STA. 456+25 SOUTHBOUND
816 No. 12.24 DESIGN No. 5 22' ARM
TOTAL SIGN AREA = 18'-0" X 9'-6" = 171 S.F.
EFFECTIVE SIGN AREA = 18'-0" X 10'-6" = 153 S.F.
SPACING = 8 5/8", 99 3/8", 99 3/8", 8 5/8"
No. OF BRACKETS 3 Ht. 9'-6"
FIXTURES 2 LUMINAIRES @ 175W

NOTE: NEW PROPOSED
SUPPORT



(72) OVERHEAD SIGN SUPPORT
STA. 461+05 NORTHBOUND
TYPE TC-12.30 DESIGN NO. 10
TOTAL SIGN AREA = 20'-0" X 7'-0" = 140 S.F.
EFFECTIVE SIGN AREA = 20'-0" X 6'-0" = 120 S.F.
SPACING = 7", 75 3/8", 75 3/8", 75 3/8", 6 7/8"
No. OF BRACKETS 4 Ht. 7'-0"
FIXTURES 3 LUMINAIRES @ 175W

NOTE: EX. SUPPORTS TO BE
RE-USED IN PLACE.

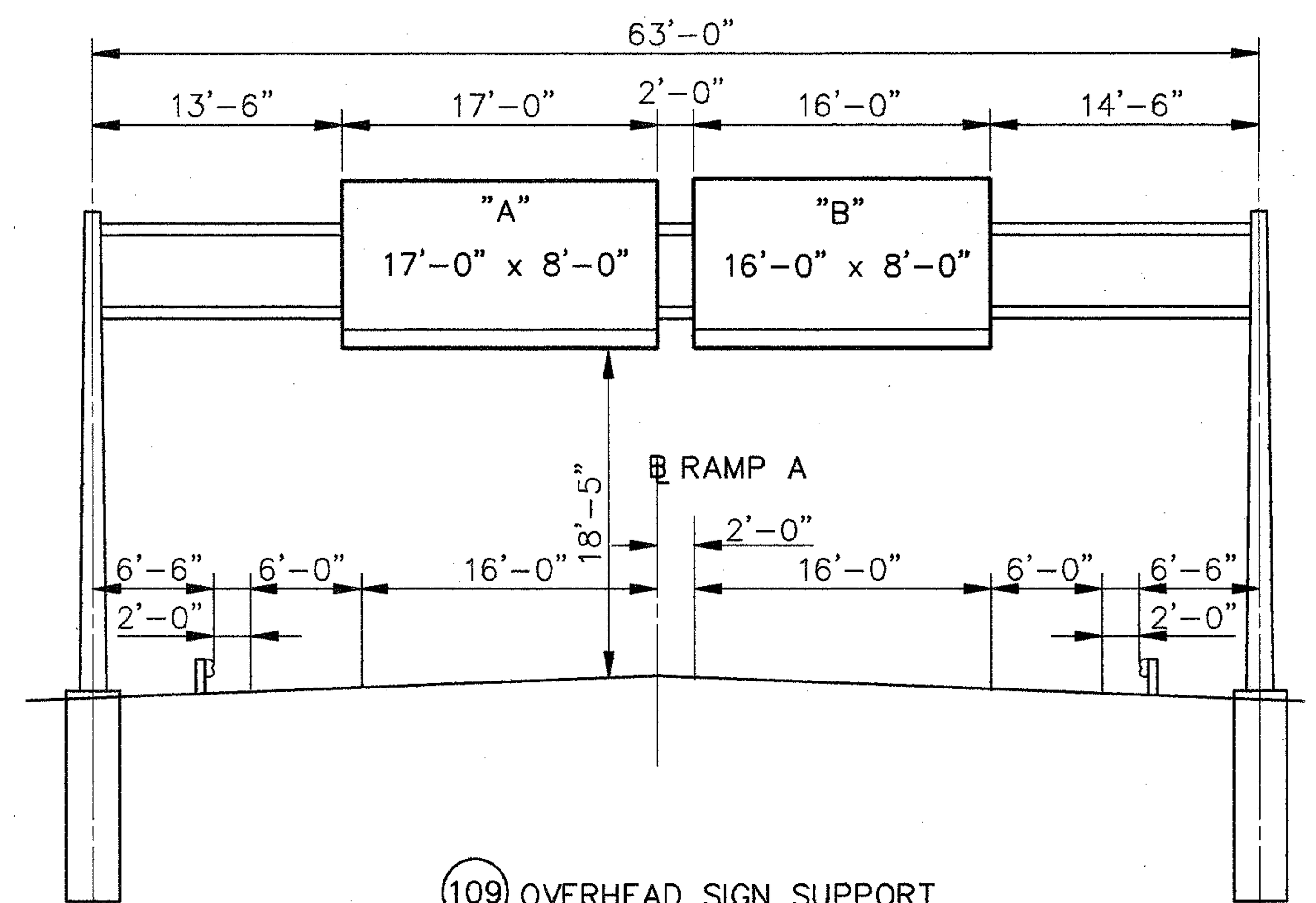


(73) OVERHEAD SIGN SUPPORT
STA. 467+90 NORTHBOUND
816 No. 7.4 DESIGN No. 2 (MODIFIED) 75'-4 3/4"
TOTAL SIGN AREA = 267 S.F.

"A"
15'-0" X 7'-0" = 105 S.F.
SPACING = 14 5/8" , 75 3/8", 75 3/8", 14 5/8"
No. OF BRACKETS 3 Ht. 8'-0"
FIXTURES 2 LUMINAIRES @ 175W

"B"
21'-0" X 6'-0" = 126 S.F.
SPACING = 13", 75 3/8" , 75 3/8", 75 3/8", 12 7/8"
No. OF BRACKETS 4 Ht. 7'-0"
FIXTURES 3 LUMINAIRES @ 175W

NOTE: NEW PROPOSED
SUPPORT



(109) OVERHEAD SIGN SUPPORT
STA. 2+43 RAMP A RED BANK EXP.
TYPE TC-7.65 DESIGN NO. 6
TOTAL SIGN AREA = 264 S.F.

"A"
17'-0" X 7'-0' = 119 S.F.
SPACING = 14 5/8", 75 3/8", 99 3/8", 14 5/8"
No. OF BRACKETS 3 Ht. 8'-0"
FIXTURES 2 LUMINAIRES @ 175W

"B"
16'-0" X 7'-0" 112 S.F.
SPACING = 8 3/8", 75 3/8", 99 3/8", 8 5/8"
No. OF BRACKETS 3 Ht. 8'-0"
FIXTURES 2 LUMINAIRES @ 175W

5 0 5 10 15 20
SCALE: 1/8" = 1'-0"

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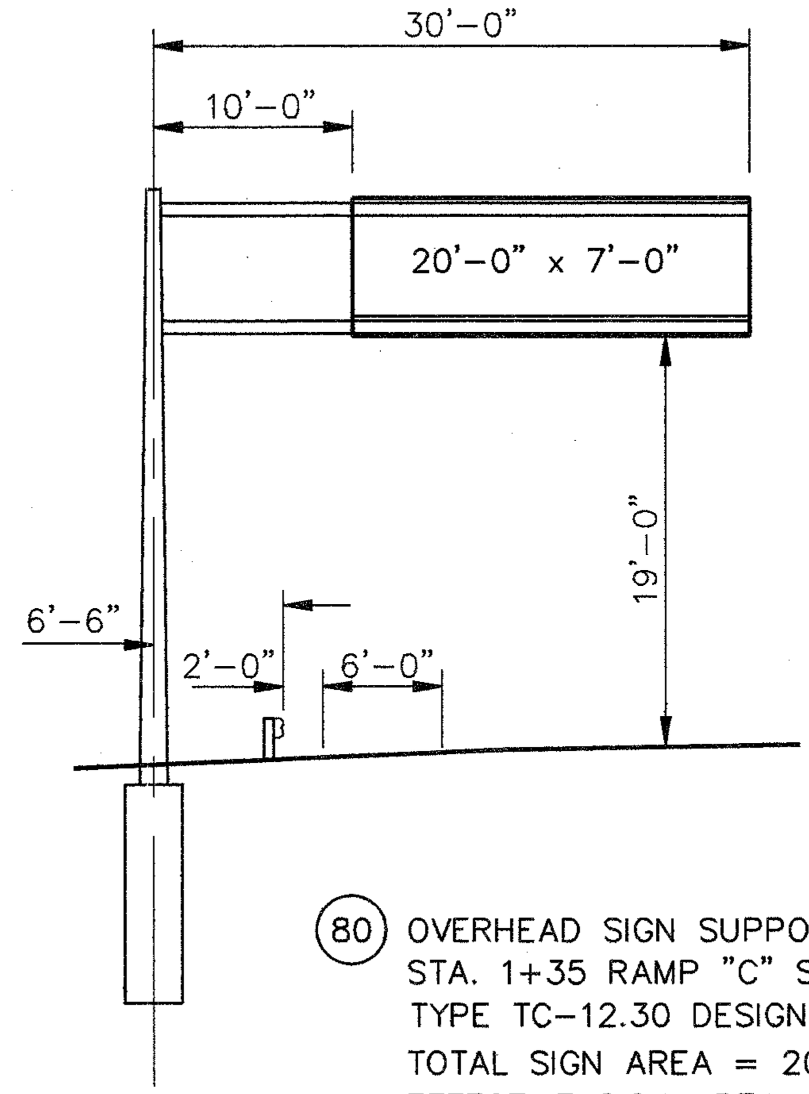
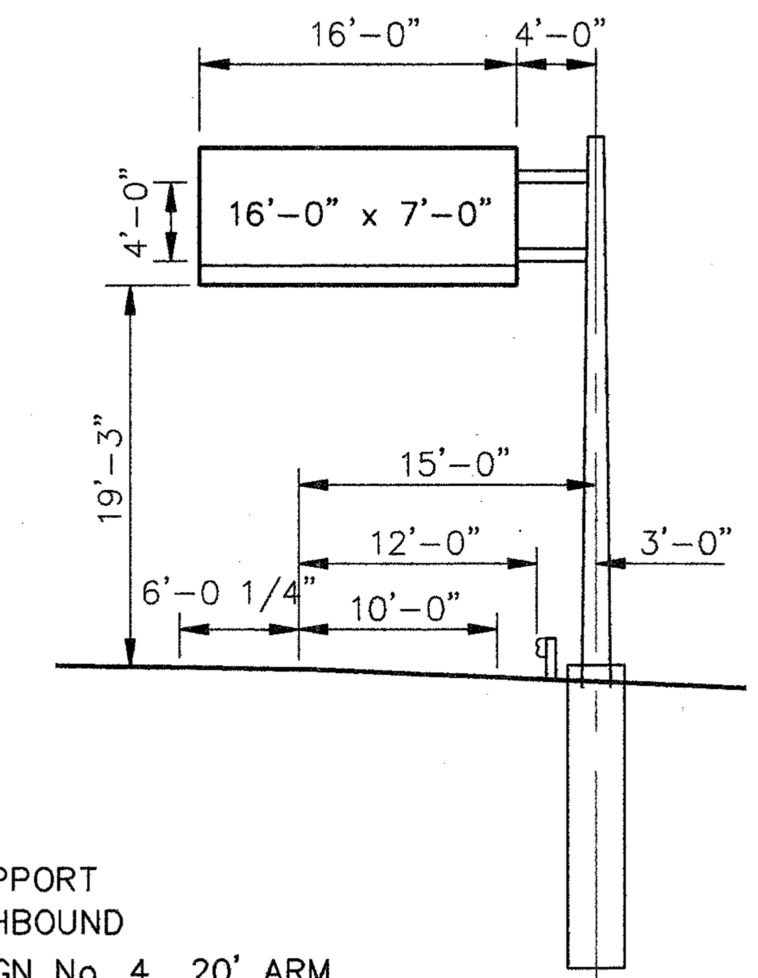
GUIDE SIGN ELEVATION VIEWS

NOTE: NEW PROPOSED SUPPORT

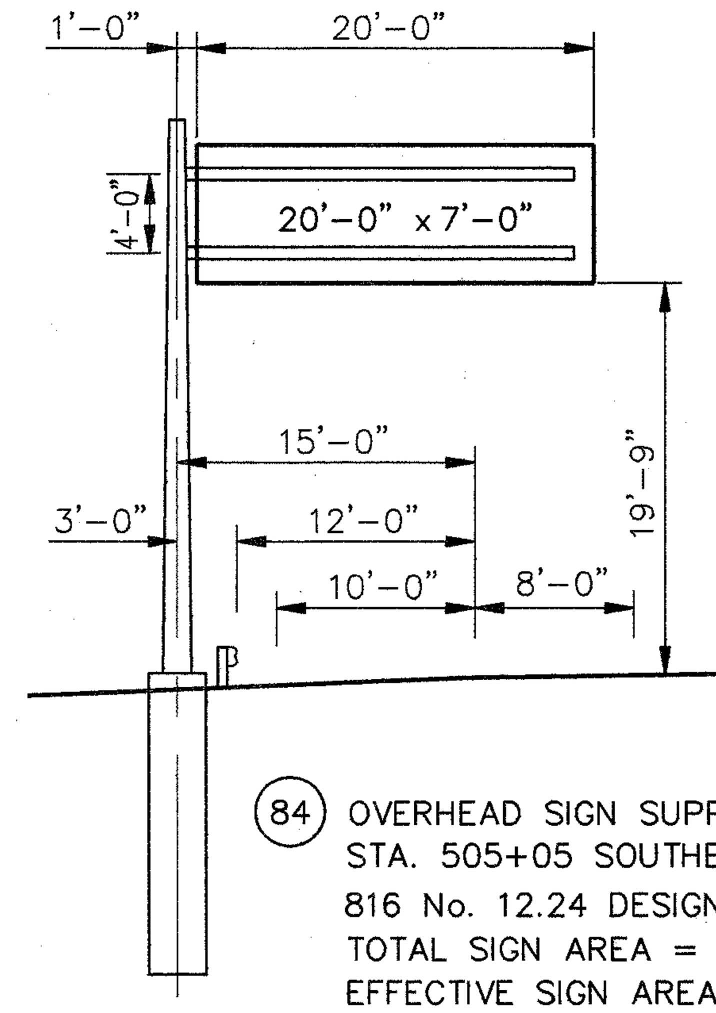


(80) OVERHEAD SIGN SUPPORT
STA. 1+35 RAMP "C" SOUTHBOUND
TYPE TC-12.30 DESIGN NO. 10, 30'-0" ARMS
TOTAL SIGN AREA = 20'-0" X 7'-0" = 140 S.F.
EFFECTIVE SIGN AREA = 20'-0" X 6'-0" = 120 S.F.
SPACING = 7, 75 3/8", 75 3/8", 75 3/8", 6 7/8"
No. OF BRACKETS 4 HT. 7'-0"
FIXTURES 3 LUMINAIRES @ 175W

NOTE: EX. SUPPORTS TO BE RE-USED IN PLACE.



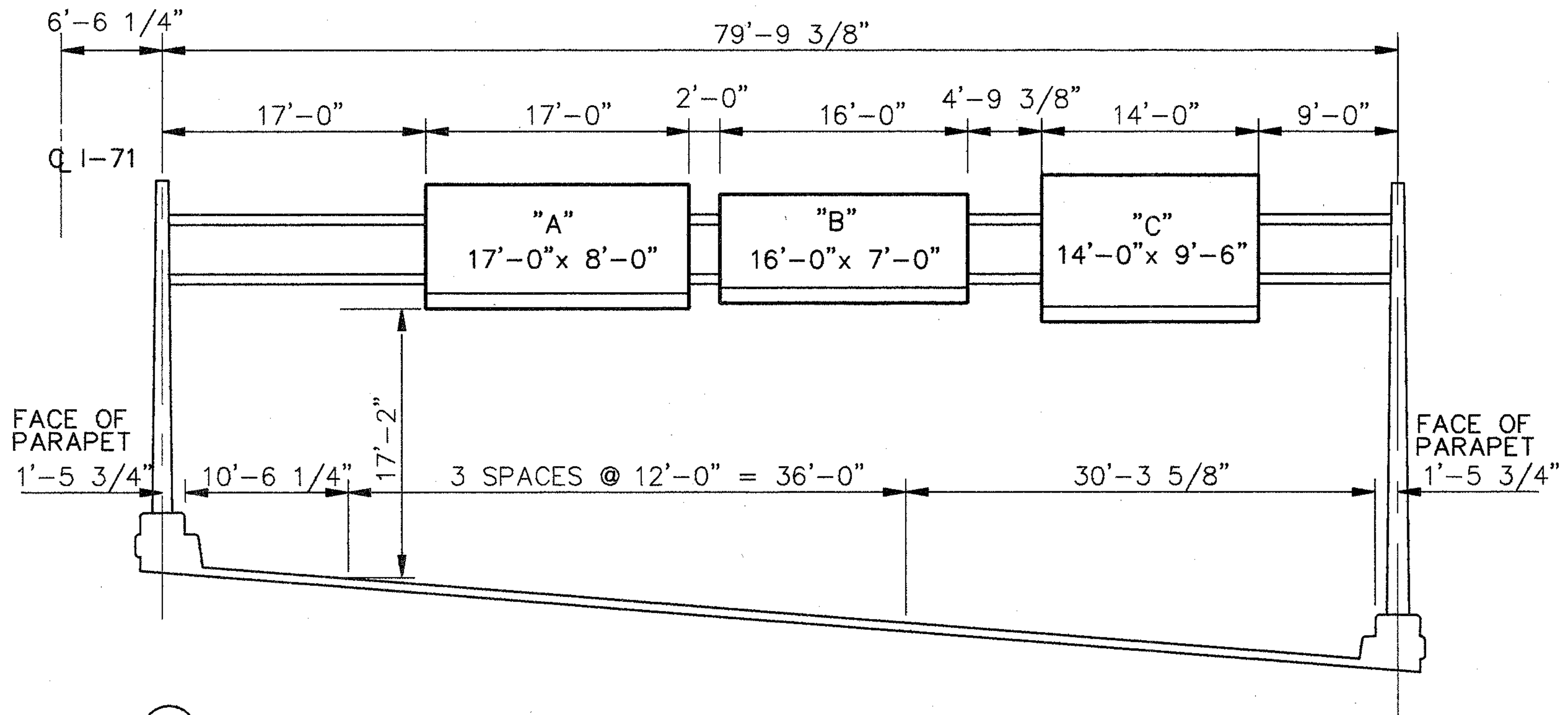
(82) OVERHEAD SIGN SUPPORT
STA. 500+00 NORTHBOUND
816 No. 12.24 DESIGN No. 4 20' ARM
TOTAL SIGN AREA = 16'-0" X 7'-0" = 112 S.F.
EFFECTIVE SIGN AREA = 16'-0" X 6'-0" = 96 S.F.
SPACING = 8 5/8", 75 3/8", 99 3/8", 8 5/8"
No. OF BRACKETS 3 Ht. 7'-0"
FIXTURES 2 LUMINAIRES @ 175W



NOTE: EX. SUPPORTS TO BE RE-USED IN PLACE.

(84) OVERHEAD SIGN SUPPORT
STA. 505+05 SOUTHBOUND
816 No. 12.24 DESIGN No. 4 20' ARM
TOTAL SIGN AREA = 20'-0" X 7'-0" = 140 S.F.
EFFECTIVE SIGN AREA = 20'-0" X 6'-0" = 120 S.F.
SPACING = 7", 75 3/8", 75 3/8", 75 3/8", 6 7/8"
No. OF BRACKETS 4 Ht. 7'-0"
FIXTURES 3 LUMINAIRES @ 175W

NOTE: EX. SUPPORTS TO BE RE-USED IN PLACE.



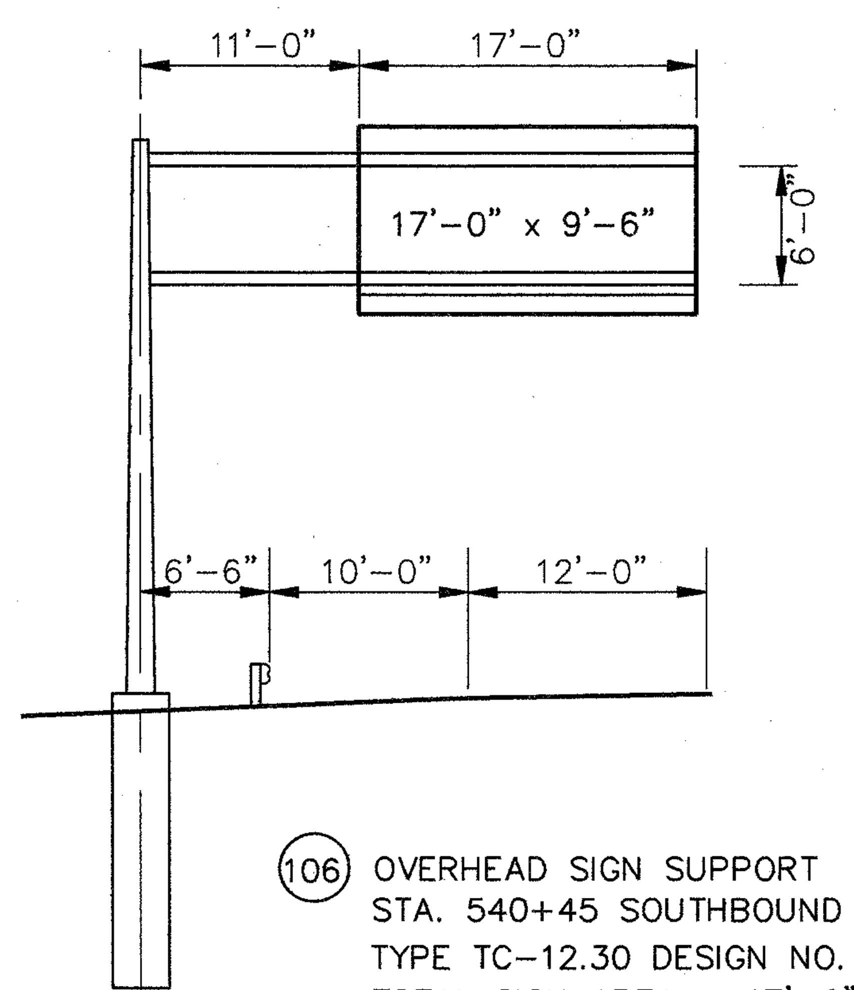
(88) OVERHEAD SIGN SUPPORT
STA. 520+00 NORTHBOUND
816 No. 7.5 DESIGN No. 2 (MODIFIED), SPAN= 79'-9 3/8"
TOTAL SIGN AREA = 381 S.F.

"A"
17'-0" X 7'-0" = 119 S.F.
SPACING = 14 5/8", 75 3/8", 99 3/8", 14 5/8"
No. OF BRACKETS 3 Ht. 8'-0"
FIXTURES 2 LUMINAIRES @ 175W

"B"
16'-0" X 6'-0" = 96 S.F.
SPACING = 8 5/8" , 75 3/8", 99 3/8", 8 5/8"
No. OF BRACKETS 3 Ht. 7'-0"
FIXTURES 2 LUMINAIRES @ 175W

"C"
14'-0" X 8'-6" = 119 S.F.
SPACING = 8 5/8" , 75 3/8", 75 3/8", 8 5/8"
No. OF BRACKETS 3 Ht. 9'-6"
FIXTURES 2 LUMINAIRES @ 175W

NOTE: NEW PROPOSED SUPPORT



(106) OVERHEAD SIGN SUPPORT
STA. 540+45 SOUTHBOUND
TYPE TC-12.30 DESIGN NO. 8
TOTAL SIGN AREA = 17'-0" X 9'-6" = 161.5 S.F.
EFFECTIVE SIGN AREA = 17'-0" X 8'-6" = 144.5 S.F.
SPACING = 14 5/8", 75 3/8", 99 3/8", 14 5/8"
No. OF BRACKETS 3 Ht. 9'-6"
FIXTURES 2 LUMINAIRES @ 175W

5 0 5 10 15 20
SCALE: 1/8" = 1'-0"

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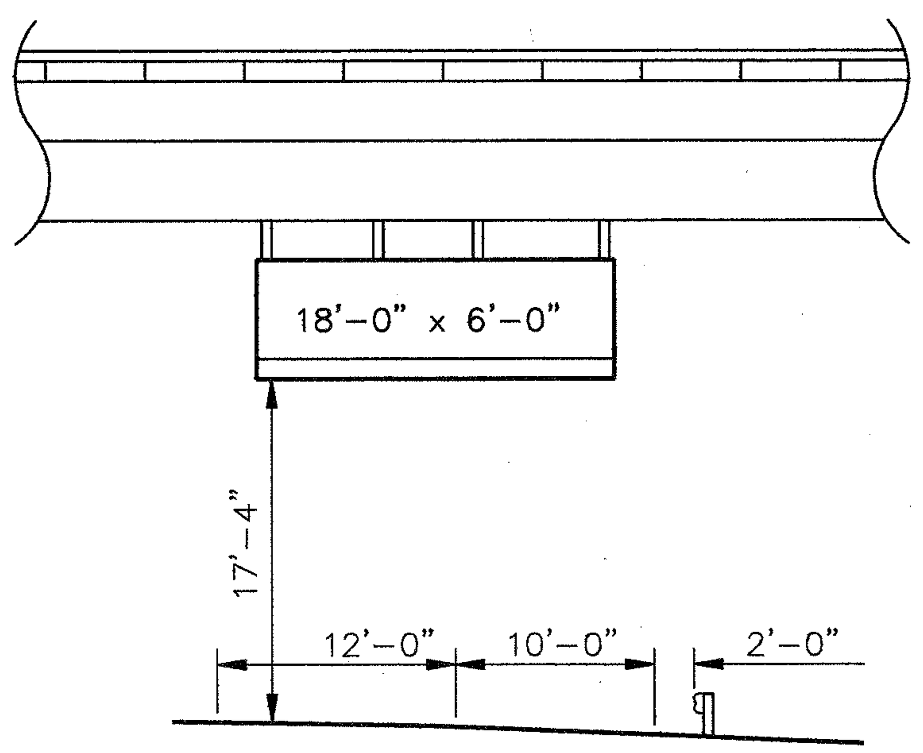
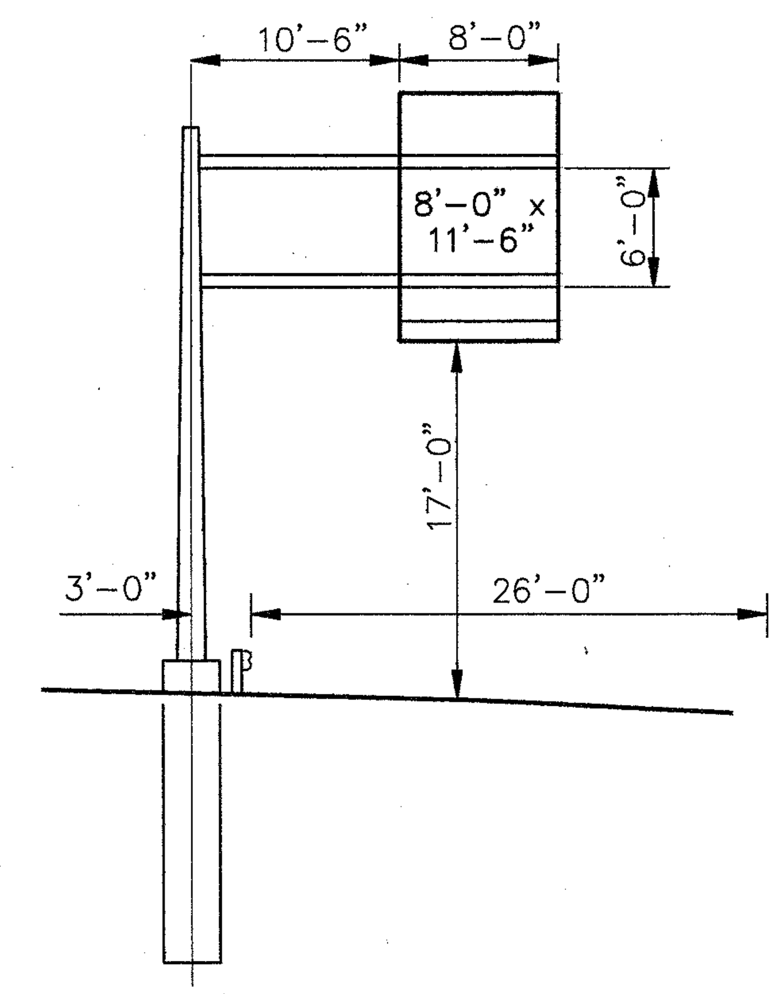
GUIDE SIGN ELEVATION VIEWS



(66) OVERHEAD SIGN SUPPORT
STA. 210+92 NORTHBOUND
TOTAL SIGN AREA = 18'-0" X 6'-0" = 108 S.F.
EFFECTIVE SIGN AREA = 18'-0" X 5'-0" = 90 S.F.
SPACING = 8 5/8", 99 3/8", 99 3/8", 8 5/8"
No. OF BRACKETS 3 Ht. 6'-0"
FIXTURES 2 LUMINAIRES @ 100W

NOTE: EX. SUPPORTS TO BE
RE-USED IN PLACE.



(44) OVERHEAD SIGN SUPPORT
STA 183+78 SOUTHBOUND RAMP "RB"
OVERHEAD SIGN SUPPORT T.C. 12.30 DESIGN NO. 3
TOTAL SIGN AREA = 8'-0" X 11'-6" = 92 S.F.
EFFECTIVE SIGN AREA = 8'-0" 10'-6" = 84 S.F.
SPACING = 10 3/8", 75 3/8", 10 1/4"
No. OF BRACKETS 2 Ht. 11'-6"
FIXTURES 1 LUMINAIRE @ 250W

NOTE: NEW PROPOSED SUPPORT

5 0 5 10 15 20
SCALE: 1/8" = 1'-0"

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621 RAISED PAVEMENT MARKERS

STATIONING (FROM-TO)	(SIDE)	SPACING	W	Y	W/R		REMARKS (LINE TYPE)
NORTHBOUND							
127+10N - 166+87N	RT.	80'	102				LANE LINE
166+87N - 182+07N	RT.	80'			40		"
172+15N - 182+07N	RT.	80'			13		"
182+07N - 215+00N	RT.	80'	126				"
188+46N - 215+00N	RT.	80'	34				"
140+47N - 145+11N	RT.	40'	12				EDGE LINE
157+54 - 162+85	RT.	40'	14				"
167+80 - 172+15N	RT.	40'	11				"
184+20N - 188+46N	RT.	40'	11				"
179+35N - 182+07N	RT.	20'	14				CHANNELIZING LINE
182+07N - 182+87N	RT.	40'	2				EDGE LINE
140+89B - 142+79B	RT.	40'		5			"
142+79B - 145+11B	RT.	40'	6				"
157+40N - 160+90N	RT.	40'		9			"
160+90N - 162+85	RT.	40'	5				"
167+73GD - 170+54GD	RT.	40'		8			"
170+54GD - 172+15GD	RT.	40'	5				"
184+32GD - 186+62GD	RT.	40'		6			"
186+62GD - 188+46GD	RT.	40'	5				"
179+15N - 182+07N	RT.	20'	15				CHANNELIZING LINE
182+07N - 182+87N	RT.	40'		2			EDGE LINE
435+08 - 452+25	RT.	80'	44				LANE LINE
452+25 - 469+90	RT.	80'			40		"
469+90 - 503+36	RT.	80'	84				"
492+37 - 503+36	RT.	80'	14				"
503+36 - 521+73	RT.	80'			46		"
503+36 - 518+56	RT.	80'			20		"
521+73 - 548+36	RT.	80'	68				"
467+65 - 469+90	RT.	20'	12				CHANNELIZING LINE
1+80B - 4+32B	RT.	20'	13				
469+90 - 470+70	RT.	40'	2				EDGE LINE
4+32B - 5+12B	RT.	40'		2			"
485+44 - 492+37	RT.	40'	18				"
485+44 - 489+41	RT.	40'		10			"
489+41 - 492+37	RT.	40'	8				"
518+76 - 521+73	RT.	20'	15				CHANNELIZING LINE
521+73 - 522+53	RT.	40'	2				EDGE LINE
518+56 - 5+39F	RT.	20'	16				CHANNELIZING LINE
5+39F - 6+19F	RT.	20'		2			EDGE LINE
COLUMN TOTALS			658	44	159		

STATIONING (FROM-TO)	(SIDE)	SPACING	W	Y	W/R		REMARKS (LINE TYPE)
SOUTHBOUND							
125+40S - 134+96S	LT.	80'	12				LANE LINE
134+96S - 150+16S	LT.	80'			20		"
140+76S - 150+16S	LT.	80'			12		"
150+16S - 161+80S	LT.	80'	30				"
161+80S - 177+00S	LT.	80'			40		"
177+00S - 196+03S	LT.	80'	48				"
196+03S - 211+23S	LT.	80'			40		"
200+17S - 211+23S	LT.	80'			14		"
211+23S - 215+00	LT.	80'	15				"
134+16S - 134+96S	LT.	40'		2			EDGE LINE
134+16S - 134+96S	LT.	40'	2				"
134+96S - 140+76S	LT.	20'	30				CHANNELIZING LINE
134+96S - 140+56S	LT.	20'	29				"
161+00S - 161+80S	LT.	40'	2				EDGE LINE
161+80S - 165+59S	LT.	20'	19				CHANNELIZING LINE
161+81S - 165+39S	LT.	20'	18				"
179+73S - 182+79S	LT.	40'		8			EDGE LINE
179+73S - 182+79RB	LT.	40'	8				"
195+23S - 196+03S	LT.	40'	2				"
195+23GA - 196+03GA	LT.	40'		2			"
196+03GA - 200+17S	LT.	20'	21				CHANNELIZING LINE
196+03S - 199+97S	LT.	20'	20				"
435+08 - 495+22	LT.	80'	152				LANE LINE
495+22 - 510+42	LT.	80'			40		"
497+90 - 510+42	LT.	80'			16		"
510+42 - 548+36	LT.	80'	96				"
467+74 - 472+50	LT.	40'	12				EDGE LINE
467+74 - 469+89	LT.	40'	6				"
469+89 - 17+00A	LT.	40'		7			"
495+22 - 496+02	LT.	40'	2				"
2+97C - 3+77C	LT.	40'		2			"
496+02 - 497+70	LT.	20'	9				CHANNELIZING LINE
3+77C - 497+90	LT.	20'	10				"
510+72 - 516+77	LT.	40'	16				EDGE LINE
510+72 - 513+51	LT.	40'	7				"
513+51 - 8+70E	LT.	40'		9			"
COLUMN TOTALS			566	30	182		

EXISTING PRISMATIC RETROREFLECTORS SHALL BE REMOVED FROM THE RPM CASTINGS ATT THE LEAD-IN AREAS OUTSIDE THE PROJECT LIMITS. NEW RETROREFLECTORS SHALL BE INSTALLED WHEN CONSRTUCTION IS COMPLETED. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE TRAFFIC CONTROL SUMMARY:

ITEM 621 40 EACH PRISMATIC RETROREFLECTOR

SUBTOTALS		W	Y	W/R		REMARKS (LINE TYPE)
COLUMN 1		658	44	159		
COLUMN 2		566	30	182		
TOTAL TO TRAFFIC CONTROL SUMMARY		1224	74	341		
		1639				

620 DELINEATORS

LOCATION	STATION TO STATION	SIDE	SPACING	BRACKET MTD.		POST MTD.	
				C	D	C	D
INTERSTATE 71	135+93NB - 139+93NB	RT.	400'			2	
	165+30NB - 168+30NB	RT.	300'			2	
	181+28NB - 184+78NB	RT.	350'			2	
	199+32NB - 215+32NB	RT.	400'			5	
	201+59SB - 205+59SB	LT.	200'			3	
I-471 INTERCHANGE							
I-471 NB	149+75NB - 150+55NB	LT.	80'				3
RAMP GF	30+18GF - 32+28GF	LT.	70'				4
RAMP GG	30+33GG - 32+33GG	RT.	200'				2
GILBERT AVE. INTERCHANGE							
RAMP GA	168+05GA - 174+05GA	LT.	200'				4
RAMP GD	158+22GD - 162+22GD	LT.	200'				3
	162+22GD - 164+62GD	LT.	60'				4
	164+62GD - 166+62GD	LT.	200'				1
READING RD./FLORENCE AVE. INTERCHANGE							
RAMP RA	195+59RA - 199+59RA	LT.	200'			3	
RAMP RB	191+80RB - 193+80RB	LT.	200'			2	
	182+47RB - 188+47RB	RT.	200'				4
RAMP RC	188+40RC - 192+40RC	LT.	200'			3	
RAMP RD	174+35RD - 175+35RD	RT.	100'			2	
	179+48RC - 182+48RD	LT.	60'			6	
	184+48RD - 186+48RD	RT.	200'			2	
RAMP RE	183+45RE - 189+45RE	RT.	200'			4	
	188+38RE - 190+38RE	LT.	200'				2
	191+08RE - 193+18RE	LT.	70'				4
RAMP RF	182+00RF - 192+00RF	LT.	200'			11	
COLUMN TOTALS						47	31

LOCATION	STATION TO STATION	SIDE	SPACING	BRACKET MTD.		POST MTD.	
				C	D	C	D
INTERSTATE 71	433+88 - 465+88	RT.	400'			9	
	433+88 - 465+88	LT.	400'			9	
	470+40 - 482+40	RT.	400'			4	
	471+69 - 491+69	LT.	400'			6	
	489+43 - 517+43	RT.	400'			7	
	499+00 - 515+00	LT.	400'			5	
	516+00 - 520+00	LT.	400'			2	
	523+52 - 527+52	LT.	400'			2	
	522+74 - 526+74	RT.	400'			2	
	536+00 - 548+00	LT.	400'			4	
	538+00 - 546+00	RT.	400'			3	
RED BANK ROAD INTERCHANGE							
RAMP A	0+75A - 6+75A	LT.	200'				4
	4+68A - 7+88A	RT.	80'			5	
	11+10A - 19+10A	RT.	80'			11	
	15+94A - 17+74A	LT.	90'				3
RAMP B	4+76B - 14+36A	LT.	60'				17
RAMP C	2+00C - 16+00C	RT.	200'			8	
	21+77C - 25+77C	RT.	200'			3	
RAMP D	0+00D - 6+00D	RT.	200'			4	
	4+68D - 12+68D	RT.	200'				5
STEWART ROAD INTERCHANGE							
RAMP E	0+00E - 4+00E	RT.	200'			3	
	3+00E - 9+00E	LT.	200'				4
RAMP F	5+90F - 21+90F	RT.	50'			33	
	6+20F - 9+20F	LT.	50'				7
	18+70F - 21+70F	LT.	50'				7
RAMP F1	0+00F1 - 2+00F1	LT.	200'				2
COLUMN TOTALS						120	49

	BRACKET MTD.		POST MTD.	
	C	D	C	D
COLUMN 1			47	31
COLUMN 2			120	49
TOTAL TO TRAFFIC CONTROL SUMMARY			167	80

802 BARRIER REFLECTORS

STATION TO STATION	SIDE	SPACING LIN. FT.	802 BARRIER REFLECTOR TYPE A(WHITE) EA.	802 BARRIER REFLECTOR TYPE A(YELLOW) EA.	802 BARRIER REFLECTOR TYPE B(WHITE) EA.	802 BARRIER REFLECTOR TYPE B(YELLOW) EA.		SHEET NO.
133+29SB – 135+79 SB	LT.	125			3			232
135+79SB – 161+75	LT.	100			26			232
133+56SB – 134+95SB	LT.	69.5				3		232
133+59SB – 134+95SB	RT.	68			3			232
135+63NB – 138+13NB	LT.	125				3		232
138+13NB – 167+33	LT.	100				30		232
135+63NB – 164+83	RT.	100				30		232
164+83 – 167+33	RT.	125				3		234
138+18NB – 141+30NB	RT.	78	2		3			232
150+06 – 155+85	RT.	100			6			233
155+85 – 158+35	RT.	125			3			233
158+52 – 166+10	RT.	100	4		4			233
166+10 – 168+60NB	RT.	125	3					234
166+96 – 169+46SB	LT.	125			3			234
169+46 – 196+40SB	LT.	100			28			234
167+33SB – 169+83SB	LT.	125				3		234
169+83SB – 174+91SB	LT.	100		2		4		234
167+33NB – 180+33NB	LT.	100				14		234
174+25NB – 178+78NB	RT.	100			6			234
178+78NB – 181+28NB	RT.	125			3			234
182+25NB – 213+00	RT.	100				31		235
213+00 NB – 215+50	RT.	100				3		237
184+16SB – 186+66SB	LT.	125				3		235
186+66SB – 215+50	LT.	100				30		235
185+19NB – 201+82NB	RT.	104	4		13			235
201+82NB – 204+32NB	RT.	125	3					236
205+59SB – 203+09SB	RT.	125			3			236
203+09SB – 215+35	RT.	100	1		12			236
209+84NB – 211+65	RT.	90.5	3					237
RAMP B								
137+68B – 141+70B	LT.	100				5		232
139+06B – 149+06B	RT.	100			11			232
NB I-471								
149+85N – 153+85N	LT.	50		2		7		233
154+85N – 155+85N	LT.	100				2		233
157+10N – 158+35N	LT.	125				2		233

STATION TO STATION	SIDE	SPACING LIN. FT.	802 BARRIER REFLECTOR TYPE A(WHITE) EA.	802 BARRIER REFLECTOR TYPE A(YELLOW) EA.	802 BARRIER REFLECTOR TYPE B(WHITE) EA.	802 BARRIER REFLECTOR TYPE B(YELLOW) EA.		SHEET NO.
SB I-471								
154+43S – 156+43S	RT.	100				3		233
157+58S – 158+73S	RT.	115				2		233
RAMP GD								
157+24GD – 161+24GD	RT.	100	2		3			233
161+74GD – 165+24GD	RT.	50			8			233
166+24GD – 173+24GD	RT.	100			8			234
158+22GD – 161+22GD	LT.	100		4				233
161+72GD – 165+22GD	LT.	50		8				233
166+32GD – 168+52GD	LT.	100		3				234
RAMP GG								
30+52GG – 32+82GG	RT.	115		3				234
31+26GG – 32+88GG	LT.	81	3					234
40+68GG – 44+68GG	LT.	100		5				233
41+05GG – 42+05GG	RT.	50	3					233
43+05GG – 44+81GG	RT.	88		3				233
RAMP GA								
168+50GA – 171+00GA	RT.	125	3					234
171+50GA – 175+50GA	RT.	50	6		3			234
176+50GA – 178+00GA	RT.	75	3					234
171+44GA – 175+44GA	LT.	50		7		2		234
176+44GA – 196+44GA	LT.	100				21		234
GILBERT AVE.								
17+80GBN	RT.	–	1					233
ELSINORE PL.								
12+67 – 13+00	RT.	50	1	1				234
RAMP RD								
174+54RD – 177+54RD	RT.	100	2		2			234
178+04RD – 180+54RD	RT.	50	3		3			234
175+83RD – 176+83RD	LT.	100				2		234
177+33RD – 182+33RD	LT.	50		5		6		234

STATION TO STATION	SIDE	SPACING LIN. FT.	802 BARRIER REFLECTOR TYPE A(WHITE) EA.	802 BARRIER REFLECTOR TYPE A(YELLOW) EA.	802 BARRIER REFLECTOR TYPE B(WHITE) EA.	802 BARRIER REFLECTOR TYPE B(YELLOW) EA.		SHEET NO.
NB READING								
14+57NBR – 16+57NBR	LT.	100		2		1		234
17+07NBR – 19+57NBR	LT.	50				6		235
20+57NBR – 28+57NBR	LT.	100		2		7		235
29+07NBR – 31+47NBR	LT.	120		3				235
14+62NBR – 16+62NBR	RT.	100			3			234
17+12NBR – 19+62NBR	RT.	50			6			235
20+62NBR – 23+62NBR	RT.	100			4			235
24+87NBR – 26+12NBR	RT.	125			2			235
RAMP GF								
30+18GF – 32+18GF	LT.	50		5				234
30+93GF – 32+43GF	RT.	50	4					234
RAMP RB								
179+48RB – 182+18RB	RT.	90		2		2		235
183+18RB – 193+18RB	RT.	100		6		5		235
188+44RB – 193+44RB	LT.	100	3		3			235
RAMP RC								
188+37RC – 191+37RC	RT.	100	4					235
192+57RC – 31+74NBR	RT.	120	2					235
181+33RC – 186+33RC	LT.	100				6		235
187+14RC – 187+95RC	LT.	81				2		235
182+25RC – 183+45RC	LT.	120			2			235
RAMP RA								
187+35RA – 189+15RA	LT.	90			3			235
190+15RA – 199+15RA	LT.	100	4		6			235
RAMP RE								
186+19RE – 187+38RE	RT.	119	2					235
188+42RE – 192+92RE	LT.	90		6				235
RAMP RF								
187+64RF – 192+94RF	LT.	106		6				235
188+44RF – 193+34RF	RT.	98	1		5			235
SB READING RD.								
13+96SBR – 14+17SBR	RT.	50	1	1				234
TOTAL THIS SHEET			68	76	188	238		

802 BARRIER REFLECTORS

STATION TO STATION	SIDE	SPACING	BARRIER REFLECTOR TYPE A(WHITE)	BARRIER REFLECTOR TYPE A(YELLOW)	BARRIER REFLECTOR TYPE B(WHITE)	BARRIER REFLECTOR TYPE B(YELLOW)		SHEET NO.
		LIN. FT.	EA.	EA.	EA.	EA.		
433+89 – 545+89	LT	100		1		112		238
547+12.5 – 548+35	LT	123				2		246
433+89 – 545+89	RT	100		1		112		238
547+12.5 – 548+35	RT	123				2		246
435+35 – 469+35	LT	100	32		3			238
470+40 – 471+45	LT	105	2					240
435+57 – 466+57	RT	100	32					238
477+70 – 480+12	RT	121	3					241
478+63 – 481+63	LT	100	4					241
490+02 – 499+02	RT	100	10					242
500+25 – 501+48	RT	123	1		1			242
505+04 – 509+94	LT	98	1		5			243
505+50 – 516+50	RT	100	12					243
519+15 – 525+31	LT	88	3		5			244
527+70 – 535+70	RT	100	2		7			244
536+85 – 538+00	RT	115			2			245
530+50 – 537+30	LT	85	2		7			244
540+49 – 542+13	LT	82	2		1			245
RAMP A								
2+20A – 3+45A	LT	125		2				247
6+45A – 11+45A	LT	50		2		9		241
6+81A – 11+81A	RT	50	3		8			241
RAMP B								
2+00B – 16+00B	RT	50	25		4			240
7+50B – 12+50B	LT	50		11				240
RAMP C								
0+52C – 11+52C	RT	100	12					242
12+02C – 25+02C	RT	50	16		11			241
11+91C – 22+91C	LT	50		12		11		241
RAMP D								
1+68 – 16+68	RT	100	16					247

STATION TO STATION	SIDE	SPACING	BARRIER REFLECTOR TYPE A(WHITE)	BARRIER REFLECTOR TYPE A(YELLOW)	BARRIER REFLECTOR TYPE B(WHITE)	BARRIER REFLECTOR TYPE B(YELLOW)		SHEET NO.
		LIN. FT.	EA.	EA.	EA.	EA.		
RED BANK EXPWY								
74+25 – 84+25	LT	100				11		247
85+50 – 86+75	LT	125				2		247
74+25 – 84+25	RT	100				11		247
85+50 – 86+75	RT	125				2		247
80+72 – 86+72	RT	100	7					247
80+72 – 83+42	LT	90	3					247
84+42 – 86+42	LT	100	3					247
RAMP E								
0+00E – 2+50E	RT	125	3					244
RAMP F								
1+36F – 5+36F	RT	100	2		3			243
8+00F – 17+00F	LT	50		16		3		244
STEWART RD.								
47+38 – 49+38	LT	100	3					244
50+56 – 51+74	LT	118	2					244
TOTAL THIS SHEET			201	45	57	277		
TOTAL FROM SHEET NO. 260			68	76	188	238		
TOTAL CARRIED TO THE TRAFFIC CONTROL SUMMARY			269	121	245	515		
			390		760			

TRAFFIC CONTROL QUANTITIES

NOTE: STATIONS ARE APPROXIMATE

PAVEMENT MARKINGS

ROADWAY	SIDE	STATION FROM	STATION TO	ITEM 642 CURB MARKING (WHITE) LIN. FT.	ITEM 642 CURB MARKING (YELLOW) LIN. FT.	ITEM 642 ISLAND MARKING (WHITE) SQ. FT.	ITEM 644 EDGE LINES (WHITE) LIN.FT.	ITEM 644 EDGE LINES (YELLOW) LIN.FT.	ITEM 644 4" LANE LINES LIN.FT.	ITEM 644 8" EDGE LINES (YELLOW) LIN. FT.	ITEM 644 CENTER LINES: SOLID, DOUBLE LIN. FT.	ITEM 644 8" CHANNELIZING LINE (WHITE) LIN.FT.	ITEM 644 24" TRANSVERSE LINE (WHITE) LIN.FT.	ITEM 644 24" TRANSVERSE LINE (YELLOW) LIN.FT.
I-71 NB	RT	127+10N	136+62N	952										
	RT	127+10N	145+11N				1801							
	RT	145+11N	160+90N				1579							
	RT	162+85N	172+15N				930							
	RT	172+15N	188+46N				1631							
	RT	188+46N	215+15N				2666.5							
	RT	127+10N	215+15N						8802.5					
	RT	127+10N	215+15N						8802.5					
	RT	145+11N	148+17N						306					
	RT	162+85N	164+50N						165					
	RT	172+15N	215+15N						4297.5					
	RT	188+46N	215+15N						2666.5					
	RT	175+10N	179+15N						405					
	RT	127+10N	179+00N					5190						
	RT	182+05N	215+15N					3307.5						
	RT	179+15N	182+05N									290		
	RT	179+15N	182+05N									290		
	RT	179+15N	182+05N										343	
	RT	127+10N	136+23N		913									
	RT	160+90N	162+85N									195		
I-71 SB	LT	125+40S	134+96S	956										
	LT	125+40S	134+96S					956						
	LT	125+40S	134+96S							956				
	LT	140+76S	179+73S					3897						
	LT	179+73S	215+47.5S					3574.5						
	LT	125+40S	215+47.5S						9007.5					
	LT	142+27S	215+47.5S						7320.5					
	LT	125+40S	134+96S		956									
	LT	165+59S	167+21S						162					
	LT	177+40S	179+73S						233					
	LT	212+90S	215+47.5S						257.5					
	LT	125+40S	161+80S				3640							
	LT	165+51S	196+03S				3052							
	LT	204+64S	215+47.5S				1083.5							
	LT	125+40S	134+96S											1331
	LT	134+96S	140+76S										1074	
	LT	162+39S	165+51S										331	
	LT	196+43S	200+17S										304	
	LT	200+17S	204+64S										296	
	LT	134+96S	140+76S									580		
	LT	161+80S	165+51S									371		
	LT	196+03S	200+17S									414		
	LT	134+96S	142+27S									731		
	LT	200+17S	204+64S									447		
	LT	200+17S	204+64S									447		
	LT	200+17S	212+90S									1273		
	TOTALS FROM THIS SHEET			1908	1869	0	16383	16925	42425.5	956	0	5038	2348	1331

TRAFFIC CONTROL QUANTITIES

NOTE: STATIONS ARE APPROXIMATE

PAVEMENT MARKINGS

				ITEM 642			ITEM 644														
ROADWAY	SIDE	STATION FROM	STATION TO	CURB MARKING (WHITE)	CURB MARKING (YELLOW)	ISLAND MARKING (WHITE)	EDGE LINES (WHITE)	EDGE LINES (YELLOW)	4" LANE LINES			8" EDGE LINE (YELLOW)	CENTER LINES: SOLID, DOUBLE	8" CHANNELIZING LINE (WHITE)			24" TRANSVERSE LINE (WHITE)	24" TRANSVERSE LINE (YELLOW)			
				LIN. FT.	LIN. FT.	SQ. FT.	LIN.FT.	LIN.FT.	LIN.FT.			LIN. FT.	LIN. FT.	LIN.FT.			LIN.FT.	LIN.FT.			
RAMP RB	LT	179+73	187+00					727													
	LT	184+57	187+00						243												
	LT	187+00	193+85					685													
		180+55	187+00				645														
		179+73	180+55											82							
		188+04	193+85				581														
		187+00	188+04											104							
RAMP RF	LT	188+04	194+46					642													
		187+00	193+86				686														
		193+68	193+96	28																	
		193+68	193+96	30																	
		193+96	193+96	25																	
R		187+00	188+04											104							
RAMP E	LT	125+40S	134+96S	956																	
	LT	125+40S	140+76S					1536													
	LT	125+40S	134+96S				956														
	LT	125+40S	134+28S		888																
	LT	134+96S	140+76S											580							
RAMP B	LT	134+51	142+79					828													
	LT	142+79	145+11											232							
		133+75	138+77.21											502.21							
		133+75	138+77.21											502.21							
		133+75	138+77.21														650				
		138+77.21	142+79				401.79														
FC		7+65 FC	10+00 FC											235							
		7+65 FC	9+20 FC											155							
		7+65 FC	9+20 FC														76				
	TOTALS FROM THIS SHEET			1039	888	0	3269.79	4418	243			0	0	2496.42			726	0			

TRAFFIC CONTROL QUANTITIES

NOTE: STATIONS ARE APPROXIMATE

PAVEMENT MARKINGS

ROADWAY	SIDE	STATION FROM	STATION TO	ITEM 642 CURB MARKING (WHITE)	ITEM 642 CURB MARKING (YELLOW)	ITEM 642 ISLAND MARKING (WHITE)	ITEM 644 EDGE LINES (WHITE)	EDGE LINES (YELLOW)	4" LANE LINES			8" EDGE LINES (YELLOW)	CENTER LINES: SOLID, DOUBLE	8" CHANNELIZING LINE (WHITE)			24" TRANSVERSE LINE (WHITE)	24" TRANSVERSE LINE (YELLOW)			
				LIN. FT.	LIN. FT.	SQ. FT.	LIN.FT.	LIN.FT.	LIN.FT.			LIN. FT.	LIN. FT.	LIN.FT.			LIN.FT.	LIN.FT.			
I-71 NB	RT	434+25	467+45				3320														
	RT	470+90	492+37				2147														
	RT	492+37	518+56				2619														
	RT	522+76	548+36				2560														
	RT	434+25	548+36						11411												
	RT	434+25	548+36						11411												
	RT	465+18	467+45						227												
	RT	492+37	500+00						763												
	RT	434+25	548+36					11411													
	RT	467+45	470+90											345							
	RT	500+00	522+76											2276							
	RT	467+45	469+90														202				
	RT	518+56	521+77														288				
I-71 SB	LT	434+25	548+36					11411													
	LT	434+25	548+36						11411												
	LT	434+25	548+36						11411												
	LT	464+46	467+74						328												
	LT	497+90	510+73						1283												
	LT	434+25	469+89				3564														
	LT	467+74	496+02				2828														
	LT	497+90	513+51				1561														
	LT	510+73	548+36				3763														
	LT	496+02	497+90											188							
	LT	496+02	497+90														138				
	LT	467+74	469+89											215							
	LT	510+73	513+51											278							
RAMP B		1+80	16+74.12				1494.12														
	LT	1+80	4+32											252							
	LT	4+32	16+74.12					1242.12													
RAMP C		1+11	28+99.17				2788.17														
	LT	1+11	2+98											187							
	LT	2+98	28+99.17					2601.17													
RAMP A	LT	0+00	19+43					1943													
		0+00	2+20						220												
		2+20	4+26											206							
		2+20	4+26														150				
		4+26	19+43				1517														
RAMP D		2+20	4+26											206							
		4+26	17+29					1303													
		17+29	20+27											298							
	RT	0+00	20+27				2027														
	TOTALS THIS SHEET			0	0	0	30188.29	29911.29	48465			0	0	4451			778	0			

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TRAFFIC CONTROL QUANTITIES

NOTE: STATIONS ARE APPROXIMATE

PAVEMENT MARKINGS

				ITEM 642			ITEM 644															
ROADWAY	SIDE	STATION FROM	STATION TO	CURB MARKING (WHITE)	CURB MARKING (YELLOW)	ISLAND MARKING (WHITE)	EDGE LINES (WHITE)	EDGE LINES (YELLOW)	4" LANE LINES			8" EDGE LINES (YELLOW)	CENTER LINES: SOLID, DOUBLE	8" CHANNELIZING LINE (WHITE)			24" TRANSVERSE LINE (WHITE)	24" TRANSVERSE LINE(YELLOW)				
				LIN. FT.	LIN. FT.	SQ. FT.	LIN.FT.	LIN.FT.	LIN.FT.			LIN. FT.	LIN. FT.	LIN.FT.			LIN.FT.	LIN.FT.				
RAMP GD	LT	157+23	158+33											110								
	LT	158+33	170+54					1221														
	LT	156+75	172+15				1540															
	LT	170+54	172+15											161								
	LT	157+27	158+33														228					
NB GILBERT		16+50	18+60											210								
GILBERT		28+52	31+87						1340													
		28+52	33+40										976									
I-471 NB		159+85 N	160+90 N					105														
		160+90 N	162+85N											195								
		159+85 N	162+85N				300															
I-471 SB		161+60 S	165+51 S				391															
		161+60 S	162+39 S					79														
		162+39 S	165+51 S											312								
ELSINORE PL.		13+20	15+88						1072				536									
RAMP GA		168+02.24	189+83				2180.76															
	RT	189+83	194+35											452								
	RT	168+02.24	194+35					2632.76														
	RT	194+35	196+67					232														
	RT	194+35	200+17														373					
		196+67	200+17											350								
RAMP RA		185+99	200+17				1418															
	RT	185+99	189+83					384														
	RT	189+83	200+17											1034								
RAMP RC		179+15	189+77					1062														
		189+77	191+33											156								
	RT	179+15	182+07											292								
	RT	182+07	187+47				540															
	RT	187+47	188+16											69								
	RT	188+16	191+33				578															
		187+47	188+16														26					
RAMP RE		187+47	193+55				608															
	LT	187+47	188+58											111								
	LT	188+58	193+55					497														
RAMP RD	LT	174+85	175+92											107								
	LT	175+92	186+50					1058														
	LT	173+51	182+10						859													
		174+19	188+46				1427															
		174+85	175+92														41					
NB READING		13+90	32+10					1820														
	RT	13+14	32+10						1896													
	RT	14+60	15+75											115								
	RT	15+75	27+85				1210															
	RT	29+84	32+10						230													
	RT	13+90	14+44		54																	
		13+14	14+44		130																	
		13+14	14+44		130																	
	RT	15+26	15+75														13					
	RT	27+85	29+80											195								
	TOTALS THIS SHEET			0	314	0	10192.76	9090.76	5397			0	1512	3869			681	0				

TRAFFIC CONTROL QUANTITIES

NOTE: STATIONS ARE APPROXIMATE

PAVEMENT MARKINGS

ROADWAY	SIDE	STATION FROM	STATION TO	ITEM 642 CURB MARKING (WHITE)	ITEM 642 CURB MARKING (YELLOW)	ITEM 642 ISLAND MARKING (WHITE)	ITEM 644 EDGE LINES (WHITE)	ITEM 644 EDGE LINES (YELLOW)	ITEM 644 4" LANE LINES	ITEM 644 8" EDGE LINE (YELLOW)	ITEM 644 CENTER LINES: SOLID, DOUBLE	ITEM 644 8" CHANNELIZING LINE (WHITE)	ITEM 644 24" TRANSVERSE LINE (WHITE)	ITEM 644 24" TRANSVERSE LINE(YELLOW)
				LIN. FT.	LIN. FT.	SQ. FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN. FT.	LIN. FT.	LIN.FT.	LIN.FT.	LIN.FT.
RAMP E		1+32	12+08				1076							
	LT	2+32	12+08					1016						
RAMP F	LT	2+34	5+39									305		
		5+39	17+35					1196						
		2+34	21+90.76				1956.76							
		18+50	18+50			70								
		18+64	21+90.76		326.76									
FQ1		0+00	2+75.11					275.11						
		1+37	2+75.11	138.11										
STEWART RD	RT	46+10	48+88	278										
	RT	48+88	54+80				592							
	LT	45+65	52+37				672							
RED BANK EXP		81+71.82	85+71.82				400							
	RT	81+71.82	85+71.82						400					
	RT	81+71.82	85+71.82					400						
	RT	81+71.82	86+03.31					431.49						
	RT	81+71.82	86+03.31						431.49					
	RT	81+71.82	86+03.31				431.49							
TOTALS THIS SHEET				416.11	326.76	70	5128.25	3318.6	831.49	0	0	305	0	0
TOTALS FROM SHEET NO. 262				1908	1869	0	16383	16925	42425.5	956	0	5038	2348	1331
TOTALS FROM SHEET NO. 263				1039	888	0	3269.79	4418	243	0	0	2496.42	726	0
TOTALS FROM SHEET NO. 264				0	0	0	30188.29	29911.29	48465	0	0	4451	778	0
TOTALS FROM SHEET NO. 265				0	314	0	10192.76	9090.76	5397	0	1512	3869	681	0
TOTALS TO TRAFFIC CONTROL SUMMARY				3363.11	3397.76	70	65162.09	63663.65	97361.99	956	1512	16159.42	4533	1331
							= 12.34 MI.	= 12.06 MI.	= 18.44 MI.	= 00.18 MI.	= 00.29 MI.			

TRAFFIC CONTROL QUANTITIES

NOTE: STATIONS ARE APPROXIMATE

GROUND MOUNTED SIGNS - ITEM 630

REFERENCE NUMBER	STATION	SIDE	SIGN CODE	SIZE	SIGNS: FLAT SHEET TYPE G		GROUND MOUNTED SIGN SUPPORTS	NO. 3 POST	NO. 4 POST				ONE WAY SUPPORT, NO. 4 POST	SIGN SUPPORT ASSEMBLY, POLE MOUNTED	SIGN SUPPORT ASSEMBLY, BRIDGE MOUNTED			REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL			REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
					SQ.FT.			LIN.FT	LIN.FT				LIN.FT	EACH	EACH			EACH			EACH	
4	138+42N	RT	W-49R-48	48X48	16			30.31										1			1	
8	142+27S	LT	SPECIAL	EXISTING	TO REMAIN				BANDED TO OVERHEAD SIGN SUPPORT													
9	144+66S	LT	W-75-48	48X48	16			30.31										1			1	
12A	152+37S	LT	R-10-48	48X60	20				BAND TO OVERHEAD SIGN SUPPORT					1				1				
12B	152+37S	LT	R-10-48	48X60	20				BAND TO OVERHEAD SIGN SUPPORT					1				1				
13A	154+50N	RT	R-10-48	48X60	20				29									1			1	
13B	154+50N	RT	REMOVAL															1				
16	158+06N	RT	W-49R-48	48X48	16			30.31										1			1	
18	159+25N	RT	R-2-60	60X60X60	10.83			27.66										1			1	
19	159+25 GD	RT	W-52-48	48X48	16			30.31														
20A	161+60S	LT	W-50R-48	48X48	16			30.31										1			1	
20B	161+60S	LT	W-50R-48	48X48	16			30.31										1			1	
21A	162+20 GD	RT	W-60D-48	48X48	16			30.31														
21B	162+20 GD	RT	REMOVAL															1			1	
27	167+90 GA	RT	R-2-60	60X60X60	10.83			27.66										1			1	
28A	168+07N	RT	W-50R-48	48X48	16			30.31										1			1	
28B	168+07N	RT	W-50R-48	48X48	16			30.31										1			1	
31	172+14GA	LT	W-46A-48	48X48	16			30.31										1			1	
34	174+60 RD	LT	R-171-36	36X36	9			12.5										1			1	
35	14+55 NBR	RT	R-2-60	60X60X60	10.83			27.66										1			1	
39	180+85 GA	RT	R-11A-36	36X48	12			27.0										1			1	
41	182+07 RC	LT	W-97-48	48X60	20				29									1			1	
42	182+20S	LT	W-49L-48	48X48	16			30.31										1			1	
45	185+09S	RT	REMOVAL															1			1	
45	185+09S	RT	REMOVAL															1			1	
46	186+14 SBR	LT	R-10-36	36X48	12			27.0														
47	186+64 RB	RT	R-2-60	60X60X60	10.83			27.66										1			1	
50A	188+50N	RT	W-47-48	48X48	16			30.31										1			1	
50B	189+65N	RT	N-15-24	24X6	1			25														
50C	189+65N	RT	N-18H-18	18X18	2.25																	
51A	190+24 RE	RT	R-41A-36	36X24	6			11.5										1			1	
51B	190+24 RE	LT	R-41A-36	36X24	6			11.5										1			1	
52A	28+75 NBR	LT	R-41A-36	36X24	6			11.5										1			1	
52B	28+75 NBR	RT	R-41A-36	36X24	6			11.5										1			1	
54	192+09S	LT	R-11A-36	36X48	12			27.0														
55A	191+80 RF	LT	IM-38-24	24X12	2			13.75										1			1	
55B	191+80 RF	LT	M-5-24-2	24X24	4													1				
55C	191+80 RF	LT	IM-26-21	21X15	2.1875																	
56	193+10 RE	RT	R-41B-36	36X36	9			12.5										1			1	
57A	193+74 RB	LT	IM-37-24	24X12	2			13.75										1			1	
57B	193+74 RB	LT	M-5-24-2	24X24	4													1				
57C	193+74 RB	LT	IM-24-21	21X15	2.1875																	
58A	31+77 NBR	RT	R-44R-36	36X48	12			27.0										1			1	
58B	31+77 NBR	RT	R-41B-36	36X36	9			12.5										1				
58C	31+77 NBR	RT	R-44L-36	36X48	12			27.0										1				
59A	32+02 NBR	LT	R-44R-36	36X48	12			27.0										1			1	
59B	32+02 NBR	LT	R-41B-36	36X36	9			12.5										1				
59C	32+02 NBR	LT	R-44R-36	36X48	12			27.0										1				
63	200+33S	LT	W-97-48	48X60	20				29									1			1	
65A	210+46N	RT	R-10-48	48X60	20				29									1			1	
65B	210+46N	RT	REMOVAL															1				
	TOTALS FROM THIS SHEET				518.945			811.86	116.00				0	2	0			42			32	

CALC. BY [handwritten] DATE [handwritten] CHKD. BY DLT DATE [handwritten]

TRAFFIC CONTROL QUANTITIES

NOTE: STATIONS ARE APPROXIMATE

GROUND MOUNTED SIGNS - ITEM 630

REFERENCE NUMBER	STATION	SIDE	SIGN CODE	SIZE	SIGNS: FLAT SHEET TYPE G (SQ.FT.)	GROUND MOUNTED SIGN SUPPORTS: NO. 3 POST (LIN.FT)	NO. 4 POST (LIN.FT)	ONE WAY SUPPORT, NO. 3 POST (LIN.FT)	ONE WAY SUPPORT, NO. 4 POST (LIN.FT)	SIGN SUPPORT ASSEMBLY, POLE MOUNTED (EACH)	SIGN SUPPORT ASSEMBLY, BRIDGE MOUNTED (EACH)	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL (EACH)	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL (EACH)
69	436+06	RT	R-10-48	48X60	20		29					1	1
75	473+18	LT	W-49R-48	48X48	16	30.31						1	1
77A	486+22	RT	W-50R-48	48X48	16	30.31						1	1
77B	486+22	RT	W-50R-48	48X48	16	30.31						1	1
83	504+68	LT	REMOVAL									1	1
85	505+94	RT	R-10-48	48X60	20		29					1	1
86	11+05 E	RT	REMOVAL									1	1
87	516+48	LT	W-49R-48	48X48	16	30.31						1	1
89	3+50 F	RT	W-97-48	48X60	20		29					1	1
90A	2+62 F1	LT	R-43L-36	36X12	3							1	1
90B	2+62 F1	LT	R-43R-36	36X12	3								
90C	2+62 F1	RT	R-43L-36	36X12	3								
90D	2+62 F1	RT	R-43R-36	36X12	3								
91A	2+62 F1	LT	R-41B-36	36X36	9							1	1
91B	2+62 F1	RT	R-41B-36	36X36	9							1	1
92A	2+62 F1	RT	R-1-48	48X48	16		13.5		15.0			1	1
92B	2+62 F1	LT	R-1-48	48X48	16		13.5		15.0				
93A	17+22 F	RT	R-41A-36	36X24	6	11.5						1	1
93B	17+22 F	LT	R-41A-36	36X24	6	11.5						1	1
94A	21+80 F	RT	R-2-60	60X60X60	10.83	27.66						1	1
94B	21+80 F	RT	R-41A-36	36X24	6	11.5						1	1
98	522+70	RT	REMOVAL									1	1
101	532+10	RT	R-10-48	48X60	20		29					1	1
108A	14+38.52 B	LT	W-50R-48	48X48	16	30.31							
108B	14+38.52 B	RT	W-50R-48	48X48	16	30.31							
111	6+40 A	RT	W-98-48	48X60	20		29						
112	8+55 A	RT	W-33-30	30X36	7.5						1		
113	9+05 A	RT	W-33-30	30X36	7.5						1		
114	9+55 A	RT	W-33-30	30X36	7.5						1		
115	10+05 A	RT	W-33-30	30X36	7.5						1		
116	10+55 A	RT	W-33-30	30X36	7.5						1		
	TOTALS THIS SHEET				324.33	244.02	172.00		30.00	0	5	19	19
	TOTALS FROM SHEET NO. 267				518.945	811.86	116.00		0.00	2	0	42	32
	TOTALS TO TRAFFIC CONTROL SUMMARY				843.275	1055.88	288.00		30.00	2	5	61	51

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TRAFFIC CONTROL QUANTITIES

NOTE: STATIONS ARE APPROXIMATE

GROUND MOUNTED SIGNS - ITEM 630

REFERENCE NUMBER	STATION	SIDE	SIGN CODE	SIZE	SIGNS: FLAT SHEET TYPE G	SIGNS: EXTRU SHEET TYPE G		GROUND MOUNTED SIGN SUPPORTS: NO. 3 POST	NO. 4 POST	S4X7.7 BEAM	W6X9 BEAM	W10X12 BEAM	SIGN SUPPORT ASSEMBLY, POLE MOUNTED		CONCRETE FOR EMBEDDED FOUNDATIONS	BREAK AWAY BEAM CONNECTION		REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	REMOVAL OF GROUND MOUNTED MAJOR SIGN AND STORAGE	REMOVAL OF GROUND MOUNTED BEAM SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN & REERECTION
					SQ.FT.	SQ.FT.		LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	LIN.FT.	EACH		CU. YD.	EACH		EACH	EACH	EACH	EACH	EACH
5A	139+23N	RT	GSH-1-120	120X24	20.0			23										1			2	
5B	139+23N	RT	GEP-74	72X24		12.0																
10	151+09N	RT	GCR(III)	132X66		60.5						36.5			2.20	2			1	2		
10A	151+09N	RT	GCR-74	72X24		12.0																
17	50+85 GG	LT	GF-72	72X60		30.0				31.5					0.54	2			1	2		
24	29+14 GF	RT	GE(III)	156X54		58.5													1			
25	30+70 GF	RT	GG(III)	120X54		45.0													1			
26	32+85 GG	LT	D-4E(IV)	108X48		36.0													1			
48A	186+87S	LT	GCR(III)	120X		65.0						37.5			2.20	2			1	2		
48B	186+87S	LT	GCR-84	84X24		14.0																
62	198+53S	LT	GCR(III)	132X66		60.5						36.5			2.20	2			1	2		
71A	460+03	LT	IM-38-36	36X18	4.5			28										1			1	
71B	460+03	LT	M-5-36-2	36X36	9.0													1				
74	471+00	RT	GF-72	72X60		30.0				31.5					0.54	2						
76A	481+97	RT	GC(III)	96X30		20.0				26.5					0.54	2			1	2		
76B	481+97	RT	GEP-84	84X24		14.0																
78	492+50	RT	GN(II)	132X42		38.5				28.5					0.54	2			1	2		
79	494+97	LT	GF-72	72X60		30.0				31.5					0.54	2			1	2		
81	498+73	RT	REMOVAL															2			1	
95	49+10	RT	M-45-42	42X72		21.0				33.5					0.54	2						
96A	2+14 E	LT	M-45-42	42X72		21.0				33.5					0.54	2			1	2		
96B	52+70	RT	M-45-42	42X72		21.0				33.5					0.54	2						
97	1+71 E	LT	M-45-42	42X72		21.0				33.5					0.54	2			1	2		
99	523+18	RT	GF-72	72X60		30.0				31.5					0.54	2			1	2		
100A	13+31 F	RT	D-4E(IV)	108X36		27.0																
100B	13+31 F	RT	D-4A(IV)	114X36		28.5					35.5				0.66	2			1	2		
102	533+51	RT	REMOVAL																1	2		
103	537+80	RT	GN(II)	120X42		35.0				28.5					0.54	2			1	2		
104	538+53	LT	GN(II)	132X42		38.5				28.5					0.54	2			1	2		
105A	540+42	RT	GSH-1-120	120X24	20.0			23										1			2	
105B	540+42	RT	GEP-84	84X24		14.0																
107A	544+68	RT	GC(III)	96X30		20.0				26.5					0.54	2			1	2		
107B	544+68	RT	GEP-84	84X24		14.0																
	VARIOUS STREET NAME SIGNS		D-14					46					7									11
	SPECIAL SIGN ART MUSEUM EDEN PARK Sta. 133+37	RT							14.5													2
	ALT ROUTE SIGN Sta. RA190+33	LT	M-9-24	24x12	2.0								1					1			1	
			IM-38-24	24x12	2.0								1					1				
			M-5-24-2	24x24	4.0								1					1				
			M-5-24-3	30x24	5.0								1					1				
			IM-27-21	21x15	2.2								1					1				
	TOTALS TO TRAFFIC CONTROL SUMMARY				68.7	817.0		120	14.5	398.5	35.5	110.5	12		14.28	34		11	18	30	7	13

TRAFFIC CONTROL QUANTITIES

NOTE: STATIONS ARE APPROXIMATE

OVERHEAD MOUNTED SIGNS

REFERENCE NUMBER	STATION	SIDE	SIGN CODE	SIZE	EXTRU SHEET, TYPE G	CONCRETE FOR ANCHOR BASE FOUNDATIONS	BARRIER WALL ASSEMBLY, TYPE TC-21.31, DESIGN 1	BARRIER WALL ASSEMBLY, TYPE TC-21.41, DESIGN 1	BARRIER WALL ASSEMBLY, TYPE TC-21.41, DESIGN 3	BARRIER WALL ASSEMBLY, TYPE TC-21.41, DESIGN 4	OVERHEAD SIGN SUPPORT TC-7.65 DESIGN NO. 6, 69.9' SPAN	OVERHEAD SIGN SUPPORT TC-7.65 DESIGN NO. 6, 68.5' SPAN	OVERHEAD SIGN SUPPORT TC-12.30 DESIGN NO. 3, 18.5' ARMS	OVERHEAD SIGN SUPPORT TC-7.65 DESIGN NO. 8, 78.8' SPAN	OVERHEAD SIGN SUPPORT TC-7.65 DESIGN NO. 6, 58.8' SPAN	OVERHEAD SIGN SUPPORT TC-12.30 DESIGN NO. 10, 30' ARMS	SIGN ATTACHMENT ASSEMBLY	OVERHEAD SIGN SUPPORT TC-12.30 DESIGN NO. 8, 28' ARMS	OVERHEAD SIGN SUPPORT TC-7.65 DESIGN NO. 6, 63' SPAN	REMOVAL OF OVERHEAD MOUNTED SIGN SUPPORT AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND STORAGE	REMOVAL OF LUMINAIRE AND DISPOSAL	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	REMOVAL OF BALLAST AND DISPOSAL	MERCURY VAPOR LUMINAIRE TYPE TC-31.21 WITH 100 WATT LAMP	MERCURY VAPOR LUMINAIRE TYPE TC-31.21 WITH 175 WATT LAMP	MERCURY VAPOR LUMINAIRE TYPE TC-31.21 WITH 250 WATT LAMP	SIGN SERVICE	SIGN WIRED	LUMINAIRE SUPPORT ARMS, TYPE TC-31.21	BALLAST, INTEGRAL TYPE CMRI 100/120	BALLAST, INTEGRAL TYPE CMRI 175/120	BALLAST, INTEGRAL TYPE CMRI 250/120		DISCONNECT SWITCH WITH ENCLOSURE, TYPE X	GROUND ROD
					ITEM 630																	ITEM 631														ITEM 625
					SQ.FT.	CU.YD.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH		EACH	EACH
1A	7+07FC		GE(111)	156X66	71.5	9.54					1									1	1	2	1	2	2			1	1		2				1	1
1B	7+07FC		GB(111)	132X96	88																1	1		1		1			1	1		1				
1C	7+07FC		GB(111)	156X108	117																1	2		2		2			1	2		2				
1D	7+07FC		GG(111)	192X96	128																1	2		2		2			1	2		2				
2A	134+92S	LT	GE(1)	216X108	162				1								9				1	2	1	2		2			1	2		2			1	1
	134+92S	LT	GEP-84	84X24	14																1															
2B	134+92S	LT	GB(1)	192X126	168																1	2		2		2			1	2		2				
2C	134+92S	LT	GB(1)	144X120	120																1	2		2		2			1	2		2				
	134+92S	LT	GEP-84	84X24	14																1															
3A	137+74N B		GB(1)	132X108	99												5				1	1	1	1		1			1	1		1			1	1
3B	137+74N B		GB(1)	156X108	117																1	2		2		2			1	2		2				
6	140+00N	RT	GB(1)	216X150	225												3				1	2	1	2			2		1	2			2		1	1
	140+00N	RT	GEP-72	72X24	12																1															
7	142+27S	LT	GB(1)	216X108	162												2				1	2	1	2		2			1	2		2			1	1
	142+27S	LT	GEP-84	84X24	14																1															
11A	152+37S	LT	GB(1)	216X108	162				1								9				1	2	1	2		2			1	2		2			1	1
	152+37S	LT	GEP-84	84X24	14																1															
11B	152+37S	LT	GB(1)	180X132	165																1	2		2		2			1	2		2				
11C	152+37S	LT	GB(1)	144X114	114																1	2		2		2			1	2		2				
	152+37S	LT	GEP-84	84X24	14																1															
14	155+75N	RT	GB(1)	216X150	225					1							2				1	2	1	2			2		1	2			2		1	1
	155+75N	RT	GEP-84	84X24	14																1															
15A	155+80N		GB(1)	132X108	99		1										4				1	1	1	1		1			1	1		1			1	1
15B	155+80N		GE(1)	132X90	82.5																1	1		1		1			1	1		1				
	155+80N		GEP-72	72X24	12																1															
22A	162+85S	LT	GCR(1)	180X108	135				1								10				1	2	1	2		2			1	2		2			1	1
	162+85S	LT	GCR-120	120X24	20																1															
22B	162+85S	LT	GB(1)	276X108	207																1	3		3		3			1	3		3				
	162+85S	LT	GEP-120	120X24	20																															
22C	162+85S	LT	GB(1)	228X90	142.5																1	2		2		2			1	2		2				
	162+85S	LT	GEP-84	84X24	14																1															
23A	18+35 LIB		GB(111)	156X84	91												8				1	2	1	2		2			1	2		2			1	1
23B	18+35 LIB		GB(111)	120X84	70																1	1		1		1			1	1		1				
23C	18+35 LIB		GB(111)	156X84	91																1	2		2		2			1	2		2				
29	171+03N	LT	GE(1)	252X120	210												4				1	2	1	2		3			1	3		3			1	1
	171+03N	LT	GEP-72	72X24	12																															
30	172+20S	LT	GE(1)	228X90	142.5												3				1	2	1	2		2			1	2		2			1	1
	172+20S	LT	GEP-72	72X24	12																															
32A	20+07 NBR		GB(111)	EXISTING	TO REMAIN												6																			
32B	20+07 NBR		GB(111)	108X66	49.5																1	1		1	1				1	1	1					1
32C	20+07 NBR		GB(111)	84X66	38.5																1	1		1	1				1	1	1					
33A	11+39 ELS	LT	GE(111)	120X54	45																1	1	1	1	1				1	1	1				1	1
33B	11+39 ELS	LT	GE(111)	84X72	42												4				1	1		1		1			1	1		1				
36A	14+20 SBR	RT	GE(111)	120X54	45												4				1	1	1	1	1				1	1	1				1	1
36B	14+20 SBR	RT	GG(111)	96X54	36																1	1		1	1				1	1	1					
37A	175+50 NBR		GG(111)	144X90	90												5				1	2	1	2		2			1	2		2			1	1
37B	175+50 NBR		GE(111)	108X66	49.5																1	1		1	1				1	1	1					
38A	180+61S		GB(1)	216X108	162												6				1	2	1	2		2			1	2		2			1	1
	180+61S		GEP-84	84X24	14																1															
38B	180+61S		REMOVAL																		1															
38C	180+61S		GC(1)	192X120	160																1	2		2		2			1	2		2				
	180+61S		GEP-84	84X24	14																1															
40	181+68 RC	LT	GE(1)	252X120	210												4				1	3	1	3		3			1	3		3			1	1
	181+68 RC	LT	GEP-72	72X24	12																1															
43A	19+15 SBR		GG(111)	132X102	93.5	9.54						1								1	1	1	1	1		1		1	1			1			1	1
43B	19+15 SBR		GG(111)	144X60	60																1	2		2	2				1		2					
44	183+78S RB	LT	SPECIAL	96X132	88	2.92							1									1	1	1			1	1	1				1		1	1
49A	187+25 RC		GE(1)	228X90	142.5			1									7				1	2	1	2		2			1			2			1	1
49B	187+25 RC		GE(1)	276X78	149.5																1	3		3		3			1			3				
	TOTALS THIS SHEET				5081.0	22.00	1	1	3	1	1	1	1	0	0	0	95	0	0	2	54	71	20	71	10	57	5	3	41	61	10	57	5		20	21

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OVERHEAD MOUNTED GUIDE SIGN QUANTITIES

TRAFFIC CONTROL QUANTITIES

NOTE: STATIONS ARE APPROXIMATE

OVERHEAD MOUNTED SIGNS

					ITEM 630																	ITEM 631														ITEM 625
REFERENCE NUMBER	STATION	SIDE	SIGN CODE	SIZE	EXTRU SHEET, TYPE G	CONCRETE FOR ANCHOR BASE FOUNDATIONS	BARRIER WALL ASSEMBLY, TYPE TC-21.31, DESIGN 1	BARRIER WALL ASSEMBLY, TYPE TC-21.41, DESIGN 1	BARRIER WALL ASSEMBLY, TYPE TC-21.41, DESIGN 3	BARRIER WALL ASSEMBLY, TYPE TC-21.41, DESIGN 4	OVERHEAD SIGN SUPPORT TC-7.65 DESIGN NO. 6, 69.9' SPAN	OVERHEAD SIGN SUPPORT TC-7.65 DESIGN NO. 6, 68.5' SPAN	OVERHEAD SIGN SUPPORT TC-12.30 DESIGN NO. 3, 18.5' ARMS	OVERHEAD SIGN SUPPORT TC-7.65 DESIGN NO. 8, 78.8' SPAN	OVERHEAD SIGN SUPPORT TC-7.65 DESIGN NO. 6, 58.8' SPAN	OVERHEAD SIGN SUPPORT TC-12.30 DESIGN NO. 10, 30' ARMS	SIGN ATTACHMENT ASSEMBLY	OVERHEAD SIGN SUPPORT TC-12.30 DESIGN NO. 8, 28' ARMS	OVERHEAD SIGN SUPPORT TC-7.65 DESIGN NO. 6, 63' SPAN	REMOVAL OF OVERHEAD MOUNTED SIGN SUPPORT AND DISPOSAL	REMOVAL OF OVERHEAD MOUNTED SIGN AND STORAGE	REMOVAL OF LUMINAIRE AND DISPOSAL	REMOVAL OF DISCONNECT SWITCH AND DISPOSAL	REMOVAL OF BALLAST AND DISPOSAL	MERCURY VAPOR LUMINAIRE TYPE TC-31.21 WITH 100 WATT LAMP	MERCURY VAPOR LUMINAIRE TYPE TC-31.21 WITH 175 WATT LAMP	MERCURY VAPOR LUMINAIRE TYPE TC-31.21 WITH 250 WATT LAMP	SIGN SERVICE	SIGN WIRED	LUMINAIRE SUPPORT ARMS, TYPE TC-31.21	BALLAST, INTEGRAL TYPE CMRI 100/120	BALLAST, INTEGRAL TYPE CMRI 175/120	BALLAST, INTEGRAL TYPE CMRI 250/120	SIGN WIRED, OVERPASS STRUCTURE MOUNTED	DISCONNECT SWITCH WITH ENCLOSURE, TYPE X	GROUND ROD
					SQ.FT.	CU.YD.	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
50A	9+93 D		GH(111)	120X66	55												2				1	1	1	1	1				1	1	1				1	1
53A	192+09 RA		GB(11)	156X66	71.5												8				1	2	1	2	2				1	2	2				1	1
53B	192+09 RA		GB(11)	120X90	75																	1		1		1			1	1		1				
53C	192+09 RA		GE(11)	156X102	110.5																1	2		2		2			1	2		2				
60A	35+53 NBR		GCR(111)	108X66	49.5	10.54								1						1	1	1	1	1	1			1	1		1				1	1
60B	35+53 NBR		GE(111)	84X60	35																1	1		1	1				1	1	1					
60C	35+53 NBR		GG(111)	108X78	58.5																1	1		1		1			1	1		1				
61A	198+00S		GB(1)	156X126	136.5												9				1	2	1	2		2			1	2		2			1	1
	198+00S		GEP-84	84X24	14																															
61B	198+00S		GE(1)	180X96	120																1	2		2		2			1	2		2				
	198+00S		GEP-72	72X24	12																															
61C	198+00S		GE(1)	180X132	165																1	2		2			2		1	2			2			
	198+00S		GEP-72	72X24	12																															
62A	19+31		GH(111)	120X66	55												2				1	1	1	1	1				1	1	1				1	1
64A	42+70 SBR		GH(111)	96X54	36	9.54									1					1	1	1	1	1	1			1	1		1				1	1
64B	42+70 SBR		GH(111)	108X66	49.5																1	1		1	1				1	1	1					
66	210+92N	RT	W-54D-216	216X66	99												3				1	2	1	2	2					2	2			1	1	1
67A	212+52S	LT	GG(1)	180X84	105			1									9				1	3	1	3		2			1	2		3			1	1
67B	212+52S	LT	GB(1)	192X114	152																1	2		2		2			1	2			2			
	212+52S	LT	GEP-72	72X24	12																															
67C	212+52S	LT	GB(1)	192X72	96																					2				2						
	212+52S	LT	GEP-72	72X24	12																															
70	456+25	LT	GB(1)	216X108	162												3				1	2	1	2		2			1	2		2 X			1	1
	456+25	LT	GEP-72	72X24	12																															
72	461+05	RT	GE(1)	240X78	130	4.49										1				1	1	2	1	2		3		1	1			3 X			1	1
	461+05	RT	GEP-72	72X24	12																															
73A	467+90	RT	REMOVAL																		1															
73B	467+90	RT	GB(1)	180X90	112.5												7				1	2	1	2		2			1	2		2 X			1	1
	467+90	RT	GEP-84	84X24	14																															
73C	467+90	RT	GE(1)	252X78	136.5																1	3		3		3			1	3		3 X				
	467+90	RT	GEP-72	72X24	12																															
80	1+35 RC	RT	GE(1)	240X78	130	4.49										1				1	1	3	1	3		3		1	1			3 X			1	1
	1+35 RC	RT	GEP-72	72X24	12																															
82	500+00	RT	GB(1)	192X78	104												3				1	2	1	2		2			1	2		2 X			1	1
	500+00	RT	GEP-84	84X24	14																															
84	505+05	LT	GE(1)	240X78	130												4				1	2	1	2		3			1	3		3 X			1	1
	505+05	LT	GEP-72	72X24	12																															
88A	520+00	RT	GG(1)	204X90	127.5												9				1	2	1	2		2			1	2		2 X			1	1
88B	520+00	RT	GB(1)	192X78	104																1	2		2		2			1	2		2 X				
	520+00	RT	GEP-84	84X24	14																															
88C	520+00	RT	GE(1)	168X108	126																1	2		2		2			1	2		2 X				
	520+00	RT	GEP-84	84X24	14																1															
106	540+45	LT	GB(1)	204X108	153	3.97												1		1	1	2	1	2		2		1	1			2 X			1	1
	540+45	LT	GEP-72	72X24	12																															
109A	2+43 A		GE(1)	204X90	127.5	9.54											6		1	1	1	2	1	2		2			1	2		2 X			1	1
109B	2+43 A		GE(1)	192X90	120																1	2		2		2			1	2		2 X				
110	17+75 GBN		GH-1(111)	132X60	55												2				1	1	1	1	1				1	1	1				1	1
117A	245+40S	LT	GG(1)	216X84	126																1															
117B	245+40S	LT	GB(1)	216X144	216																1															
	245+40S	LT	GEP-72	72X24	12																1															
117C	245+40S	LT	GE(1)	192X72	96																1															
	245+40S	LT	GEP-72	72X24	12																1															
	TOTALS FROM THIS SHEET				3839.0	42.57	0	1	0	0	0	0	0	1	1	2	67	1	1	6	36	54	18	54	11	44	2	5	29	44	11	11	4	1	18	18
	TOTALS FROM SHEET NO. 270				5081.0	22.00	1	1	3	1	1	1	1	0	0	0	95	0	0	2	54	71	20	71	10	57	5	3	41	61	10	57	5	0	20	21
	TOTALS TO TRAFFIC CONTROL SUMMARY				8920.0	64.57	1	2	3	1	1	1	1	1	1	2	162	1	1	8	90	125	38	125	21	101	7	8	70	105	21	68	9	1	38	39
																																30 X	175/480			

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TRAFFIC SURVEILANCE SUB-SUMMARY

REF NO.	SHEET NO.	STATION TO STATION	603 4" CONDUIT TYPE E (LIN.FT.)	625 TRENCH (LIN.FT.)	625 TRENCH IN PAVED AREA, TYPE B (LIN.FT.)	625 GROUND ROD (EACH)	625 CONDUIT, CONCRETE ENCASED, AS PER PLAN 4" (LIN.FT.)	625 CONDUIT, JACKED OR DRILLED UNDER PAVEMENT, AS PER PLAN 4" (LIN.FT.)	625 PULL BOX 713.08 24" (EACH)	625 PULL BOX W/ HEAVY DUTY LID & FRAME 713.08, 24", AS PER PLAN (EACH)	625 PULL BOX W/ HEAVY DUTY LID & FRAME 713.08, 30", AS PER PLAN (EACH)	625 PULL BOX 713.08 30" AS PER PLAN (EACH)	630 CONCRETE FOR ANCHOR BASE FOUNDATION (CU. YD.)	SPECIAL CONDUIT BRIDGE MOUNTED, AS PER PLAN 4" (LIN.FT.)
1RS	101-103	175+00 - 186+35			1135		1135							
2RS	103	186+35						26						
3RS	103-107	186+35 - 198+75			68		68							1172
4RS	107-109	198+75 - 208+75		935	65		1000							
5RS	109-110	208+75 - 213+00		425			425							
6RS	113	436+83 - 444+00		717			717							
7RS	113-114	444+00 - 454+00		1000			1000							
8RS	114-115	454+00 - 467+00		1300			1300							
9RS	115	467+00 - 5+00 RT RAMP B		35	175		210							180
10RS	115	5+00 RT.RAMP B - 470+55		10			10	22						
11RS	115-116	470+55 - 483+00		1245			1245							
12RS	116	480+00 - 486+00		600			600							
13RS	116	486+00 - 13+60 RT.RAMP D		10			10	22						
14RS	116-117	13+60 RT.RAMP D - 495+80		990			990							
15RS	117-118	495+80 - 506+00		1020			1020							
16RS	118-119	506+00 - 518+60		1260			1260							305
17RS	119	518+60 - 6+50 RT. RAMP F			115		115							
18RS	119	6+50 RT.RAMP F - 522+90 RT.		10			10	22						
19RS	119-120	522+90 - 533+00		1010			1010							
20RS	120	533+00 - 544+60		1160			1160							
21RS	114	445+25				1							5.63	
1PB	101	175+00 NB+/-	20								1			
2PB	103	186+35 NB+/-	20								1			
3PB	103	186+35 NB+/-	20								1			
4PB	107	198+75 NB+/-	20							1				
5PB	109	208+75 NB+/-	10						1					
6PB	110	213+00 NB+/-	10						1					
7PB	113	436+83 NB+/-	10									1		
8PB	113	444+00 NB+/-	10						1					
9PB	114	454+00 NB+/-	10						1					
10PB	115	467+00 NB+/-	10						1					
11PB	115	5+00 RT.RAMP B +/-	20								1			
12PB	115	470+55 NB+/-	10									1		
13PB	116	483+00 NB+/-	10									1		
14PB	116	486+00 NB+/-	10									1		
15PB	116	13+60 RT.RAMP D +/-	10									1		
16PB	117	495+80 NB+/-	10						1					
17PB	118	506+00 NB+/-	10						1					
18PB	119	518+60 NB+/-	10						1					
19PB	119	6+50 RT.RAMP F +/-	20								1			
20PB	119	522+90 NB+/-	10									1		
21PB	120	533+00 NB+/-	10						1					
22PB	120	544+61 NB+/-	10						1					
TOTALS CARRIED TO SURVEILANCE GENERAL SUMMARY			280	11727	1558	1	13285	92	10	1	5	6	5.63	1657

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS

AS-1-81	DATED	11-27-81	VPF-1-90	DATED	2-1-92
EXJ-4-87	DATED	1-20-94	HL-30.31	DATED	5-1-87
BR-2-82	DATED	11-1-82	SD-1-69	DATED	6-12-69
GR-3.1	DATED	5-6-91	RB-1-55	DATED	2-2-59

DESIGN SPECIFICATIONS: THE REPAIRS TO THE STRUCTURES SHALL CONFORM TO "STANDARD SPECIFICATIONS FOR HIGHWAYS BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, 1989 AND THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA

CONCRETE CLASS S – COMPRESSIVE STRENGTH 4500 P.S.I.

CONCRETE CLASS C – COMPRESSIVE STRENGTH 4000 P.S.I.

REINFORCING STEEL – ASTM A615, A616 OR A617 – GRADE 60 MIN. YIELD STRENGTH 60,000 P.S.I., EPOXY COATED.

STRUCTURAL STEEL – ASTM A36 – UNIT STRESS 20,000 P.S.I.

EXISTING STRUCTURE VERIFICATION: THE DETAILS SHOWN IN THESE PLANS ARE BASED ON DIMENSIONS OBTAINED FROM EXISTING DRAWINGS OF THE STRUCTURE AND/OR FIELD OBSERVATIONS. CONSEQUENTLY, THE DIMENSIONS AND DETAILS WITHIN THESE PROPOSED DRAWINGS SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR SHALL REFER TO CMS SECTIONS 102.05, 105.02, AND 513.02.

CONTRACT BID PRICES SHALL BE BASED UPON WORK PROPOSED IN THE ATTACHED DRAWINGS AND A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. THE PRICE BID SHALL ALSO REFLECT THE UNCERTAINTIES DESCRIBED ABOVE AS ALL PROJECT WORK WILL BE BASED UPON DETAILS AND DIMENSIONS VERIFIED IN THE FIELD BY THE CONTRACTOR.

EXISTING BRIDGE PLANS: EXISTING BRIDGE PLANS MAY BE INSPECTED AT THE BUREAU OF BRIDGES AND STRUCTURAL DESIGN IN COLUMBUS, OHIO, OR IN THE DISTRICT 8 OFFICE IN LEBANON, OHIO.

EXISTING REINFORCING STEEL: AT LOCATIONS WHERE CONCRETE REMOVAL AND REPLACEMENT IS REQUIRED, THE EXISTING REINFORCING STEEL SHALL REMAIN. THE STEEL SHALL BE BENT AND TRIMMED TO MAINTAIN REQUIRED CLEARANCES. THE CONTRACTOR SHALL EXERCISE CAUTION TO INSURE THAT THOSE EXISTING REINFORCING BARS WHICH ARE TO BE INCORPORATED INTO THE NEW WORK ARE NOT DAMAGED DURING THE CONCRETE REMOVAL OPERATION. ANY REINFORCING BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. EXISTING REINFORCING BARS LABELED UNUSABLE BY THE ENGINEER DUE TO CORROSION SHALL BE REPLACED WITH NEW STEEL. AN ALLOWANCE OF NEW REINFORCING STEEL HAS BEEN INCLUDED WITH THE STEEL QUANTITIES FOR THE REPLACEMENT OF CORRODED STEEL. HOWEVER, AT LOCATIONS WHERE ABUTMENT BACKWALLS ARE BEING REPLACED IT IS THE CONTRACTORS OPTION TO REMOVE EXISTING STEEL WITH THE REST OF THE BACKWALL AND DOWEL THE NEW BARS INTO THE WALL AS DETAILED.

UTILITY LINES: EXPENSES REQUIRED TO RELOCATE THOSE UTILITY LINES THAT INTERFERE WITH THE PROJECT SHALL BE BORNE BY THE OWNER(S). THE CONTRACTOR AND OWNER(S) ARE REQUESTED TO COORDINATE WORK SUCH THAT INCONVENIENCES TO EITHER WILL BE MINIMIZED.

ITEM SPECIAL, SEALING OF CONCRETE SURFACE (SEE PROPOSAL NOTE): THIS ITEM INCLUDES ALL WORK REQUIRED TO SEAL THOSE SURFACES SPECIFIED ON THE PLANS. SEE THE PROPOSAL NOTE FOR SURFACE PREPARATION REQUIREMENTS, MATERIAL REQUIREMENTS, APPLICATION RATES, AND APPLICATION PROCEDURES. THE PRICE BID FOR ITEM SPECIAL, SEALING OF CONCRETE SURFACE, OR ITEM SPECIAL, SEALING OF CONCRETE SURFACE (EPOXY), SHALL BE PER SQUARE YARD, AND SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THE WORK.

ITEM 518, SCUPPER MODIFICATION: THIS ITEM INCLUDES ALL WORK NECESSARY TO RAISE THE TOP OF EXISTING SCUPPERS OR DRAIN INLETS TO MEET THE MICRO-SILICA MODIFIED CONCRETE OVERLAY. THIS WORK SHALL BE PERFORMED ACCORDING TO DETAIL 'B' FOR SCUPPERS OR DETAIL 'E' FOR DRAIN INLETS AS SHOWN ON GENERAL DETAIL SHEET 273/401. MEASUREMENTS TO DETERMINE DIMENSIONS, QUANTITY, AND SPACING OF THE STEEL BARS USED TO RAISE EACH SCUPPER OR DRAIN INLET SHALL BE MADE IN THE FIELD. THE PRICE BID FOR THIS ITEM SHALL BE PER EACH, AND SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THIS WORK.

ITEM 517, RAILING FACED, AS PER PLAN: THIS ITEM INCLUDES ALL WORK NECESSARY TO RETROFIT THE EXISTING CURB AND PARAPET ON THE SUPERSTRUCTURES WITH THE BARRIER SHAPE. THE CONTRACTOR SHALL CAREFULLY REMOVE THE EXISTING ALUMINUM RAILING OR GUARDRAIL FROM THE BRIDGE AND DISCARD THEM. THE CONCRETE SAFETY CURB WHICH PROTRUDES ABOVE THE SCARIFIED DECK SHALL BE REMOVED. (COSTS TO REMOVE ITEMS SHALL BE INCLUDED IN ITEM 202, PORTIONS OF STRUCTURE REMOVED, FOR PAYMENT). THE CONTRACTOR SHALL MAINTAIN THE EXISTING CONDUIT SYSTEM WHERE APPLICABLE.

REINFORCING BARS SHALL BE GROUT ANCHORED AS STIPULATED IN SUPPLEMENTAL SPECIFICATIONS 852 AND 952 AT SPACINGS SHOWN ON THE DRAWINGS. THE HOLES SHALL BE THOROUGHLY CLEANED OF ALL DUST AND OTHER DELETERIOUS MATERIAL. SEE THE SUPPLEMENTAL SPECIFICATIONS FOR MATERIAL REQUIREMENTS AND FURTHER APPLICATION REQUIREMENTS. PAYMENT FOR GROUT ANCHORING SHALL BE INCLUDED IN ITEM 517, RAILING FACED, AS PER PLAN.

LOOSE AND UNSOUND CONCRETE IN THE AREA OF THE PARAPET TO BE FACED AND CONCRETE NEAR THE DECK EXTENSIONS SHALL BE REMOVED. ALL REMAINING SOUND CONCRETE TO BE COVERED WITH NEW CONCRETE SHALL BE MECHANICALLY SCARIFIED 1/4" DEEP. THE MINIMUM THICKNESS FOR THE PROPOSED FACING SHALL BE 5". THE CONCRETE SURFACES TO BE FACED SHALL BE THOROUGHLY DRENCHED WITH CLEAN WATER AND ALLOWED TO DRY TO A DAMP CONDITION JUST BEFORE PLACING THE CONCRETE.

ALL NEW REINFORCING STEEL SHALL BE EPOXY COATED AS PER ITEM 509. EPOXY COATED REINFORCING STEEL DAMAGED BY CUTTING, BENDING, ETC., SHALL BE REPAIRED AS PER ITEM 509. CONCRETE COVER OVER ALL RESTEEL SHALL BE 2". MINIMUM LAP REQUIRED FOR A #5 BAR IS 2'-0" AND FOR A #6 BAR IS 2'-6" UNLESS NOTED OTHERWISE. CONCRETE SHALL BE CLASS S AS PER ITEM 511. PAYMENT FOR CLASS S CONCRETE SHALL BE INCLUDED IN ITEM 517, RAILING FACED, AS PER PLAN.

THE EXISTING DEFLECTION JOINTS SHALL BE EXTENDED COMPLETELY THROUGH THE PROPOSED FACING. THE JOINT SHALL BE MADE BY FORMING OR SAWCUTTING THE HARDENED CONCRETE THREE (3) DAYS AFTER PLACEMENT. THE 1/4" JOINTS SHALL BE SEALED 3/4" DEEP (MINIMUM) WITH AN IMPREGNATED PRECOMPRESSED EXPANDING FOAM SEALANT TAPE KNOWN AS WILL-SEAL, MANUFACTURED BY ILLBRUCK/USA INC., MINNEAPOLIS, MINNESOTA, OR A CLOSED CELL EXPANDED NEOPRENE KNOWN AS WILLIAMS NEOPRENE, MANUFACTURED BY WILLIAMS PRODUCTS INC., TROY, MICHIGAN.

ALL OF THE ABOVE WORK AND RELEVANT PLAN NOTES SHALL BE INCLUDED IN THE PRICE BID PER LINEAR FOOT FOR ITEM 517, RAILING FACED AS PER PLAN, EXCEPT THE FOLLOWING: CURB REMOVAL, PORTIONS OF DECK AND CONCRETE RAILING REMOVAL, AND REMOVAL OF ALUMINUM RAILING, SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, FOR PAYMENT; REINFORCING STEEL COSTS SHALL BE PAID UNDER ITEM 509, EPOXY COATED REINFORCING STEEL, GRADE 60; SEALING OF SUPERSTRUCTURE PARAPETS SHALL BE INCLUDED IN PRICE BID FOR ITEM SPECIAL, SEALING OF CONCRETE SURFACE. (ALL ABUTMENT PARAPET WORK SHALL BE INCLUDED UNDER ITEM 511 CLASS "S" CONCRETE, MISC.: ABUTMENT PARAPETS).

ITEM 511, CLASS "S" CONCRETE, MISC.: ABUTMENT PARAPETS : THIS ITEM SHALL INCLUDE THE COST OF ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO REBUILD THE ABUTMENT PARAPETS AS DETAILED. THE REMOVAL OF ALUMINUM RAILING AND CURB OR PARAPET AS SHOWN ON THE PLANS SHALL BE INCLUDED UNDER ITEM 202, PORTIONS OF STRUCTURE REMOVED. USE ANCHORING SYSTEM SPECIFIED IN ITEM 517, RAILING FACED, AS PER PLAN. (DRILL DOWEL HOLES AND GROUT REINFORCING STEEL AS PER ITEM 517, ETC.) PLACE CLASS S CONCRETE AS PER ITEM 511. INSTALL ANCHOR ASSEMBLIES FOR GUARDRAILS (COST OF ANCHOR ASSEMBLIES TO BE INCLUDED WITH COST OF GUARDRAIL). MAINTAIN EXISTING CONDUIT SYSTEM AND INSTALL CONDUIT EXPANSION JOINT ASSEMBLIES, WHERE APPLICABLE, AS PER HL 30.31. ALSO, OTHER WORK SPECIFIED IN PLANS SHALL BE INCLUDED IN THIS ITEM FOR PAYMENT.

PAYMENT FOR THIS ITEM SHALL BE PER CUBIC YARD, ITEM 511, CLASS "S" CONCRETE, MISC.: ABUTMENT PARAPETS. REMOVAL ITEMS SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED, FOR PAYMENT. REINFORCING STEEL COSTS SHALL BE PAID UNDER ITEM 509, EPOXY COATED REINFORCING STEEL, GRADE 60. SEALING OF BACKWALL SHALL BE PAID FOR UNDER ITEM SPECIAL, SEALING OF CONCRETE SURFACE (EPOXY). SEALING OF ABUTMENT PARAPETS INCLUDED IN PRICE BID FOR ITEM SPECIAL, SEALING OF CONCRETE SURFACE. (WORK TO REPLACE ABUTMENT BACKWALLS IS INCLUDED IN OTHER ITEMS FOR PAYMENT, SEE PLANS).

ITEM 516, REFURBISH BEARING DEVICE: THIS ITEM SHALL INCLUDE ALL WORK NECESSARY TO: JACK AND TEMPORARILY SUPPORT THE EXISTING BRIDGES (SEE GENERAL JACKING REQUIREMENTS ON THIS SHEET); DISASSEMBLY OF THE EXISTING BEARINGS; HAND CLEANING GRINDING (IF NECESSARY), AND PAINTING AS REQUIRED BY PROPOSAL NOTE "FIELD PAINTING OF EXISTING STEEL, USING EPOXY AND URETHANE (EEU), (†); LUBRICATING SLIDING SURFACES USING FLAKED GRAPHITE; REPLACEMENT OF SAME SIZE AS THE BEARINGS, TO PROVIDE A SNUG FIT; REALIGNMENT OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS BY THE AIR-ARC PROCESS AND REWELDING THE PLATE SO THAT THE BEARINGS ARE ALIGNED AT 60 DEGREES FAHRENHEIT; REASSEMBLY OF THE BEARINGS; AND REMOVAL OF THE JACKS. BEARINGS SUBJECT TO THIS TREATMENT ARE LABELED IN THE PLANS. AT THE OPTION OF THE CONTRACTOR AND AT NO ADDITIONAL COST TO THE STATE, NEW BEARINGS OF THE SAME TYPE AS THE EXISTING MAY BE INSTALLED IN PLACE OF THE REFURBISHED BEARINGS. ALL WORK SHALL BE TO THE SATISFACTION OF THE PROJECT ENGINEER. THE CONTRACTOR SHALL SUBMIT HIS METHOD FOR JACKING AND SUPPORTING THE BRIDGE FOR PRIOR APPROVAL. PAYMENT FOR THE LABOR AND MATERIALS DESCRIBED ABOVE SHALL BE MADE AT THE CONTRACT PRICE BID PER EACH, ITEM 516, REFURBISH BEARING DEVICE.

GENERAL JACKING REQUIREMENTS: THE FOLLOWING ARE REQUIREMENTS FOR JACKING EXISTING STRUCTURES WHICH APPLY TO ITEM 516, REFURBISH BEARING DEVICE, DETAILED PLANS OF THE JACKING PROCEDURES, INCLUDING METHODS OF PREVENTING HORIZONTAL MOVEMENT WHERE APPLICABLE, SHALL BE PREPARED BY A PROFESSIONAL ENGINEER AND SHALL BEAR THE ENGINEER'S SIGNATURE AND SEAL. THE CONTRACTOR SHALL SUBMIT THREE (3) COPIES OF THE PLANS AND TWO (2) COPIES OF DESIGN CALCULATIONS TO THE DIRECTOR FIFTEEN (15) DAYS PRIOR TO JACKING OPERATIONS. APPROVAL SHALL BE RECIEVED BEFORE JACKING OPERATIONS ARE STARTED.

ATTACHMENTS MADE BY WELDING TO ANY MAIN STRUCTURAL MEMBER SHALL BE APPROVED BY THE DIRECTOR BEFORE ATTACHMENTS ARE MADE. DETAILS OF THE ATTACHMENTS SHALL BE SUBMITTED FOR APPROVAL AS PART OF THE JACKING PROCEDURE PLANS OR INDEPENDENTLY BY A SIMILAR SUBMISSION.

JACKS ARE REQUIRED TO HAVE A CAPACITY TO SAFELY SUPPORT EACH ABUTMENT AND PIER SUPPORT. MINIMUM JACK CAPACITY IS LISTED ON THE GENERAL PLAN SHEET FOR EACH BRIDGE. JACKING AND/OR TEMPORARY SUPPORTS SHALL BE LIMITED TO ONE (1) SUBSTRUCTURE UNIT AT ANY GIVEN TIME AND ALL BEAMS AT A GIVEN SUBSTRUCTURE UNIT SHALL BE RAISED SIMULTANEOUSLY. THE ABOVE JACKING PROCEDURE MAY BE WAIVED IF THE ENTIRE SUPERSTRUCTURE IS RAISED UNIFORMLY AND SIMULTANEOUSLY. IN SUCH A CASE, FIXED BEARINGS SHALL BE DISASSEMBLED AND REASSEMBLED UNDER THE DIRECTION OF THE ENGINEER. SEPARATE PAYMENT WILL NOT BE MADE FOR WORK PERFORMED ON THE FIXED BEARINGS.

APPROVAL OF THE JACKING PLANS SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR THE BEHAVIOR OF THE JACKING PROCEDURES PROPOSED. IT SHALL BE UNDERSTOOD THAT ALL JACKING OPERATIONS ARE TO BE DIRECTED BY A REGISTERED PROFESSIONAL ENGINEER. ALL JACKING OPERATIONS OF A PARTICULAR BRIDGE MUST BE COMPLETED BEFORE THE MICRO-SILICA MODIFIED CONCRETE OVERLAY IS PLACED ON SAID BRIDGE.

SEE ADDITIONAL GENERAL JACKING REQUIREMENTS ON SHEET 272A.

ITEM 516, PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL (705.11): THIS ITEM SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE THE JOINT IN PLACE INCLUDING THE SAWED JOINT. MEASUREMENT FOR PAY PURPOSES SHALL BE BASED ON THE SEALED LENGTH OF JOINTS MEASURED HORIZONTALLY ALONG THE JOINT CENTERLINES AND SHALL BE PER LINEAR FOOT.

ITEM 518, STRUCTURE DRAINAGE, MISC.: MODIFY DRAINAGE PIPING,: THE EXISTING DRAINAGE PIPING SHOWN WAS OBTAINED FROM CONSTRUCTION PLANS AND FIELD INVESTIGATIONS. THE INTENT OF THE PROPOSED DRAINAGE MODIFICATIONS IS TO IMPROVE THE FLOW CHARACTERISTICS OF THE EXISTING DRAINAGE SYSTEM. THIS IS PRIMARILY ACHIEVED BY REPLACING 90 DEGREE ELBOWS AND CLEANOUTS WITH OBTUSE ELBOWS THUS INCREASING THE SLOPE OF THE DRAINAGE PIPING. PROPOSED DRAINAGE MODIFICATIONS MAY BE VARIED, AS REQUIRED, TO MEET EXISTING CONDITIONS. CONTRACTOR SHALL NOT CLIP ANY PART OF THE STEEL BEAMS OR GIRDERS IN THE MODIFICATION OF PIPING. REALIGNMENT OF PIPING TO CLEAR BEAMS OR GIRDERS SHALL BE ACHIEVED USING ELBOWS AS INDICATED ON THE DRAINAGE MODIFICATION PLANS. NEW HANGERS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR TO ACHIEVE THE MAXIMUM SLOPE INCREASE THAT EXISTING CROSS BRACING WILL PERMIT. DRAINAGE PIPING SHALL BE GALVANIZED STEEL, 707.08, AND OF THE SAME SIZE AS THE PIPE BEING REPLACED. THE PIPE SHALL BE SECURELY FASTENED WITH HANGER AND/OR CLAMP ASSEMBLIES TO THE STRUCTURE. CONTRACTOR SHALL UTILIZE EXISTING SUPPORTS WHERE POSSIBLE. THE NUMBER OF PIPE SUPPORTS SHALL NOT BE LESS THAN USED IN THE EXISTING SYSTEM UNLESS APPROVED BY THE ENGINEER. FIELD WELDING TO THE EXISTING GIRDERS OR STEEL BEAMS WILL NOT BE PERMITTED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ENGINEER. CONNECTIONS TO STRUCTURAL CONCRETE SHALL BE MADE USING 5/8" DIAMETER THREADED RODS WITH NON-SHRINK EPOXY MORTAR PER SUPPLEMENTAL SPECIFICATION 852 AND 952 OR SELF DRILLING ANCHORS ITEM 712.01. PROVIDE A MINIMUM OF 8" EMBEDMENT FOR ANCHORS. PRIOR TO DRILLING FOR ANCHOR DOWEL HOLES, CONTRACTOR SHALL VERIFY THE REINFORCING BAR LOCATIONS TO AVOID THEIR DAMAGE. ANCHORS SHALL BE LOCATED A MINIMUM OF 6" FROM THE EDGES OF CONCRETE MEMBERS.

PROPOSED DRAINAGE PIPING AND SUPPORTS SHALL BE CLEANED AND PAINTED AS PER PROPOSAL NOTE "FIELD PAINTING OF EXISTING STEEL, USING EPOXY AND URETHANE (EEU)." GALVANIZED SURFACES SHALL BE TREATED PRIOR TO PAINTING AS RECOMMENDED BY THE PAINT MANUFACTURER. COLOR OF PAINT TO MATCH EXISTING.

PAYMENT SHALL BE MADE AT THE LUMP SUM PRICE FOR ITEM 518, STRUCTURE DRAINAGE, MISC.: MODIFY DRAINAGE PIPING. PRICE BID SHALL INCLUDE ALL LABOR, MATERIALS, AND OTHER COSTS REQUIRED, TO REMOVE AND DISPOSE OF EXISTING PIPE, MODIFY EXISTING PIPING AS SPECIFIED ABOVE AND DETAILED ON PLANS, AND DOING OTHER WORK INCIDENTAL THERETO.

ITEM SPECIAL, WATERPROOFING, MISC.: SEALING OF ASPHALT WEARING SURFACE: THIS ITEM INCLUDES ALL WORK REQUIRED TO SEAL THE EXISTING ASPHALT WEARING SURFACE ON THE SUPERSTRUCTURE. SEE FEDERAL SPECIFICATION R-P-355E, FOR MATERIAL INFORMATION. THE CONTRACTOR SHALL APPLY THREE APPLICATIONS OF SLURRY MADE WITH 5 TO 6 POUNDS OF CLEAN AND DRY SILICA SAND PER GALLON OF UNDILUTED COAL TAR PITCH. THE SILICA SAND SHALL HAVE AN AMERICAN FOUNDRY SOCIETY-GRAIN FINENESS RATING OF 50 TO 75 WITH THE FOLLOWING SIEVE ANALYSIS:

SIEVE	TOTAL PERCENT PASSING
No. 30	98 MIN.
No. 140	12 MAX.
No. 200	3 MAX.

SURFACE PREPARATION, APPLICATION RATES AND METHODS SHALL BE AS RECOMMENDED BY THE MANUFACTURER. THE PRICE BID FOR ITEM SPECIAL, WATERPROOFING, MISC.: SEALING ASPHALT WEARING SURFACE, SHALL BE PER SQUARE YARD, AND SHALL INCLUDE COSTS FOR ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO COMPLETE THE WORK.

ITEM SPECIAL, EPOXY INJECTION (SEE PROPOSAL NOTE): THIS ITEM INCLUDES ALL WORK REQUIRED TO REPAIR CRACKS IN THE CONCRETE STRUCTURE. SEE THE PROPOSAL NOTE ENTITLED "CONCRETE REPAIR BY EPOXY INJECTION", FOR PROCEDURES AND MATERIAL INFORMATION. THE PRICE BID FOR ITEM SPECIAL, EPOXY INJECTION, SHALL BE PER LINEAL FOOT, AND SHALL INCLUDE COSTS FOR ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THE WORK.

CUT LINE JOINT PREPARATION: SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1" DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. WHERE PRACTICABLE, AT LEAST 2'-0" LENGTH OF PROTRUDING REINFORCING STEEL SHALL BE LEFT IN PLACE. INSTALL DOWEL BARS AS SPECIFIED. PRIOR TO CONCRETE PLACEMENT, ABRASIVELY CLEAN JOINT SURFACE AND EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THEN, THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. CONCRETE BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

SUPERSTRUCTURE CONCRETE REMOVAL: CONCRETE REMOVAL SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT , A HAMMER HEAVIER THAN 35 POUNDS, BUT NOT TO EXCEED 85 POUNDS, MAY BE USED AT THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

MICRO-SILICA MODIFIED CONCRETE OVERLAY: WHERE SDC IS SPECIFIED ON THESE DRAWINGS, IT IS INTENDED TO BE MICRO-SILICA MODIFIED CONCRETE.

DOWEL HOLES AS PER PLAN FOR CLASS C CONCRETE, ABUTMENT RECONSTRUCTION SHALL BE GROUT ANCHORED WITH EPOXY

SEALING OF CONCRETE SURFACES(PARAPETS). SEALING SHALL MEET THE REQUIREMENTS OF THE PROPOSAL NOTE EXCEPT THE COLOR SHALL BE WHITE.

† EXCEPT BRIDGES NUMBERED, HAM-71-0986,-0987, HAM-71-1063L, HAM-71-1063R, WHICH SHALL BE PAINTED WITH OZEU WITH THE REST OF THE BRIDGE.

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409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660

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GENERAL NOTES

BRIDGE NO.

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	1/11/94	

BRIDGE GENERAL NOTES

Last Plot: SEPT. 14, 1995 @ 11:07 AM; Last Revision By: RACH MAY 18, 1994 @ 4:33 PM

CALC BY ___ DATE ___ / CHKD BY ___ DATE ___	HAM-71-1.30/9.00	OHIO / FHWA REGION 5	272A / 401

BRIDGE GENERAL NOTES

ITEM 516 - REFURBISH BEARING DEVICE, AS PER PLAN

THIS WORK SHALL INCLUDE ALL WORK NECESSARY TO: JACK AND TEMPORARILY SUPPORT THE EXISTING BRIDGE (SEE GENERAL JACKING REQUIREMENTS ON SHEET 272); DISASSEMBLY AND REMOVAL OF THE EXISTING BEARING; AND REPLACEMENT WITH NEW BEARING OF THE SAME SIZE AND TYPE AS THE EXISTING. THE CONTRACTOR SHALL VERIFY THE SIZE AND TYPE OF EXISTING BEARINGS PRIOR TO ORDERING MATERIALS FOR THE NEW BEARINGS. REFERENCE SHALL BE MADE TO STANDARD DRAWING RB-1-55 (2-2-59) AND TO THE DRAWINGS "SLOTTED SHIM PLATE FOR SLIDING PLATE BEARINGS" AND "SHIM PLATE FOR ROCKER TYPE BEARINGS". * THIS ITEM SHALL INCLUDE FURNISHING AND INSTALLING ALL SHIMS REQUIRED TO ACHIEVE PROPER BEARING AND PLACEMENT AS REQUIRED BY THE ENGINEER; REMOVAL OF THE UPPER BEARING PLATE BY REMOVING EXISTING WELDS BY AIR-ARC PROCESS AND REALIGNMENT AND REWELDING OF THE PLATE SO THAT THE BEARING IS ALIGNED AT 60 DEG.F; LUBRICATING SLIDING SURFACES USING FLAKED GRAPHITE; REASSEMBLING OF THE BEARING; REMOVAL OF JACKS; AND REALIGNMENT OF EXISTING CROSS-MEMBERS AS DIRECTED BY THE ENGINEER. PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT AND MATERIAL NEEDED TO COMPLETE ALL WORK AS DESCRIBED ABOVE, AND WILL BE MADE AT THE CONTRACT BID UNIT PRICE PER EACH, ITEM 516, REFURBISH BEARING DEVICE, AS PER PLAN.

*THE NEW BEARINGS SHALL BE SHOP PAINTED WITH COMPLETE SYSTEM OZEU PAINTING, MATCHING THE COLOR OF THE EXISTING BRIDGE.

ADDITIONAL GENERAL JACKING REQUIREMENTS

BEFORE JACKING BEGINS, THE ENGINEER SHALL INSPECT ALL BEAM SEAT AREAS TO CHECK THE SOUNDNESS OF THE EXISTING CONCRETE. ALL AREAS FOUND TO BE UNSOUND SHALL BE REPAIRED BY THE CONTRACTOR; THESE AREAS WILL BE MEASURED AND PAID FOR UNDER ITEM 519 PATCHING CONCRETE STRUCTURES. SUBSEQUENT TO THE JACKING OPERATION, ANY EXISTING OR REPAIRED BEAM SEAT AREAS FOUND TO BE DAMAGED BY THE CONTRACTOR'S JACKING OPERATION SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE PROJECT.

ITEM 518 - STRUCTURE DRAINAGE, MISC.: SCUPPER AND DRAINAGE PIPE CLEANOUT

THIS WORK SHALL CONSIST OF REMOVING SEDIMENT AND DEBRIS FROM THE EXISTING SCUPPERS AND STRUCTURE DRAINAGE PIPES, AT LOCATIONS DESIGNATED BY THE ENGINEER, TO PROVIDE POSITIVE DRAINAGE FLOW THROUGH THE STRUCTURE DRAINAGE SYSTEM. ALL MATERIAL REMOVED FROM THE SCUPPERS AND PIPES SHALL BE DISPOSED OF AS PER 203.05. THE STRUCTURE DRAINAGE SYSTEM FOR EACH STRUCTURE SHALL BE CLEANED OUT TO THE SATISFACTION OF THE ENGINEER. PAYMENT FOR THIS ITEM SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIAL NEEDED TO COMPLETE THE WORK, AND WILL BE MADE AT THE LUMP SUM PRICE ~~BID FOR EACH BRIDGE~~.

ITEM 202 - WEARING COURSE REMOVED (ASPHALT), AS PER PLAN

THE ASPHALT WEARING COURSE REMOVAL SHALL BE A SEPARATE AND INDEPENDENT OPERATION FROM THE 1/4" DECK SCARIFICATION FOR THE MICRO-SILICA MODIFIED CONCRETE OVERLAY. ALL ASPHALT SHALL BE REMOVED FROM THE SURFACE OF THE BRIDGE DECK PRIOR TO SCARIFICATION. EXISTING RAISED PAVEMENT MARKERS SHALL BE REMOVED FOR STORAGE AND WILL BE INCLUDED FOR PAYMENT UNDER THE ROADWAY ITEM 202 RAISED PAVEMENT MARKERS REMOVED FOR STORAGE.

ITEM 514 - FIELD PAINTING, MISC.: FIELD PAINTING EXISTING STEEL (EEU)

THIS ITEM SHALL INCLUDE ALL WORK TO PREPARE AND FIELD PAINT IN PLACE ALL STRUCTURAL STEEL WITHIN 6' ON EITHER SIDE OF AN EXPANSION JOINT, IN ACCORDANCE WITH THE PROPOSAL NOTE "FIELD PAINTING OF EXISTING STEEL, USING EPOXY AND URETHANE (EEU)". THIS WORK SHALL INCLUDE PAINTING OF THE STEEL BEAMS, CROSS-FRAMES, EXISTING AND/OR REFURBISHED EXPANSION JOINTS, AND OTHER MISCELLANEOUS STEEL AS DIRECTED BY THE ENGINEER. THE COLOR OF THE NEW PAINT SHALL MATCH THE COLOR OF THE EXISTING BRIDGE. PAYMENT WILL BE MADE AT THE LUMP SUM BID PRICE FOR EACH BRIDGE AND SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIAL NEEDED TO COMPLETE THE WORK TO THE SATISFACTION OF THE ENGINEER.

ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: SEAL JOINT BETWEEN ABUTMENT AND CONCRETE SLOPE PROTECTION

THIS ITEM OF WORK PROVIDES FOR THE CLEANING OUT AND RESEALING OF THE EXISTING JOINTS BETWEEN THE BRIDGE ABUTMENT AND CONCRETE SLOPE PROTECTION. THE JOINTS SHALL BE CLEANED OF ALL DEBRIS AND VEGETATION. THE JOINT SHALL THEN BE FILLED WITH HOT-APPLIED CRACK AND JOINT SEALER AS PER 705.04. A FOAM BACKER ROD MAY BE PLACED PRIOR TO PLACEMENT OF THE JOINT SEALER. PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIAL NEEDED TO COMPLETE THE WORK TO THE SATISFACTION OF THE ENGINEER.

ITEM 601 - SLOPE PROTECTION, MISC.: REPAIR CONCRETE SLOPE PROTECTION

THIS ITEM PROVIDES FOR THE REPAIR OF THE EXISTING CONCRETE SLOPE PROTECTION IN AREAS WHERE THE EXISTING CONCRETE HAS BEEN WASHED OUT OR UNDERMINED. THE EXISTING CONCRETE SHALL BE REMOVED AS DIRECTED BY THE ENGINEER, THE VOID UNDERNEATH FILLED WITH GRANULAR BASE MATERIAL, AND THE CONCRETE REPLACED WITH CLASS C CONCRETE. ALL WORK SHALL CONFORM TO ITEM 601. LOCATIONS WHERE THIS WORK IS TO BE PERFORMED SHALL BE DETERMINED BY THE ENGINEER. PAYMENT SHALL INCLUDE ALL LABOR, EQUIPMENT, AND MATERIAL NEEDED TO COMPLETE THE WORK, AND SHALL BE MADE AT THE BID UNIT PRICE PER SQUARE YARD.

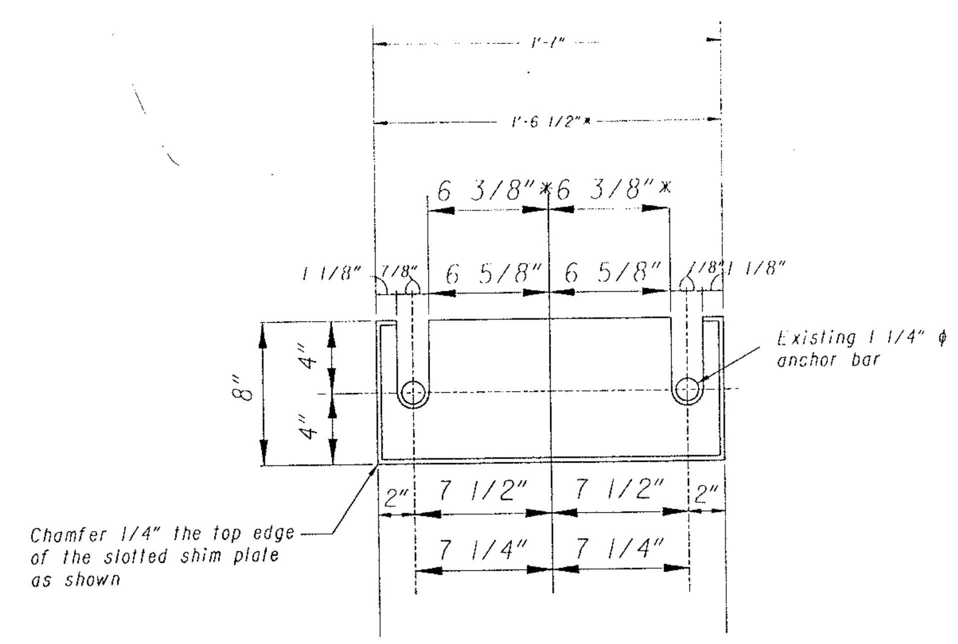
ITEM 516 - STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2"X4" SEALER, AS PER PLAN

IN ADDITION TO LOCATIONS SHOWN ON THE PLANS, THIS ITEM SHALL BE USED AT OTHER LOCATIONS AS DIRECTED BY THE ENGINEER TO SEAL THE EXISTING VERTICAL JOINT BETWEEN THE ABUTMENT AND WINGWALL. THE SEALS SHALL BE FURNISHED AND THE WORK PERFORMED AS PER THE DETAILS SHOWN ON SHEET 277 OF THE PLANS. THIS ITEM SHALL ALSO INCLUDE ANY TRIMMING OF THE EXISTING CONCRETE NEEDED IN ORDER TO PROPERLY SEAL THE JOINT.

ITEM 516 - REFURBISH BEARING DEVICE, AS PER PLAN

BEAM DESIGNATIONS LEFT TO RIGHT FACING UP STATION		QUANTITY
HAM-71-0154	FORWARD ABUT., BEAMS 4,5,6,7	4
HAM-22-0145	REAR ABUT., BEAM 6	1
HAM-42-0264 R	FORWARD ABUT., BEAMS 1,2,3,4,5	5
HAM-71-0243 L	REAR ABUT., BEAMS 1,2,3,4,5,6	6
HAM-71-0243 R	REAR ABUT., BEAMS 5,6,7,8,11,12 PIER 4 REAR, BEAM 7 PIER 4 FORWARD, BEAMS 4,5,6,7,8,9,10,11	15
HAM-71-1063 R	FORWARD ABUT., BEAM 11	1
	TOTAL: 32 EACH	

TOTAL CARRIED TO GENERAL SUMMARY

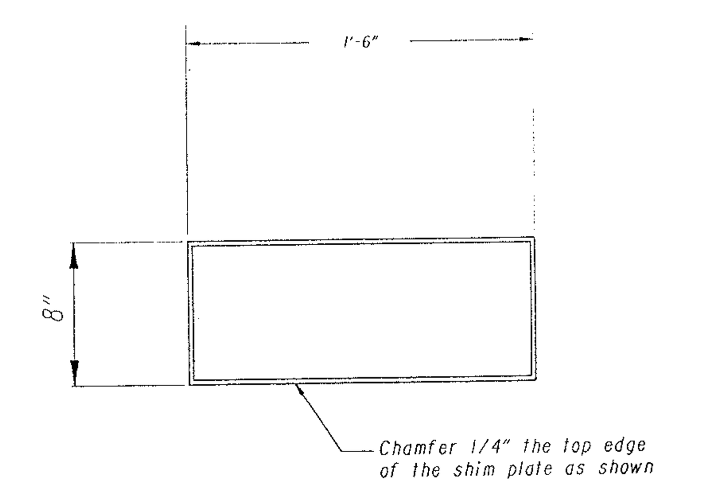


Cast of providing shim plates and welding to be included with Item 516 Refurbish Bearing Devices, As Per Plan, for payment.

SLOTTED SHIM PLATE

(For Sliding Plate Bearings)

Notes:
1. Weld the slotted shim plate to the existing bearing base plate with 1/4" fillet weld where chamfered.
2. Shim plates shall not exceed 3/4" in thickness.
   * Shim plate dimmensions for Bridge No. WAR-75-1002 only.
3. For placement or repacement of anchor bars see Anchor Bar Detail below this sheet.



Cast of providing shim plates and welding to be included with Item 516 Refurbish Bearing Devices, As Per Plan, for payment.

SHIM PLATE

(For Rocker Type Bearings)

Notes:
1. Weld the slotted shim plate to the existing bearing base plate with 1/4" fillet weld where chamfered.

25-APR-1995
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BRIDGE GENERAL NOTES

MECHANICAL CONNECTORS FOR REINFORCING STEEL

AT ALL BRIDGE BACKWALL AND APPROACH SLAB LOCATIONS THAT ARE BEING CONSTRUCTED PART-WIDTH IN ORDER TO MAINTAIN TRAFFIC,THE CONTRACTOR SHALL FURNISH AND INSTALL MECHANICAL CONNECTORS OF THE PROPER SIZE FOR THE HORIZONTAL REINFORCING STEEL AT VERTICAL CONSTRUCTION JOINTS. THE CONNECTORS SHALL CONFORM TO 509.08 AND SHALL BE APPROVED BY THE ENGINEER. THE COST OF FURNISHING AND INSTALLING THE MECHANICAL CONNECTORS SHALL BE INCIDENTAL TO THE UNIT PRICE BID FOR ITEM 509 EPOXY COATED REINFORCING STEEL OR ITEM 611 REINFORCED CONCRETE APPROACH SLAB.

ITEM 516 - STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL

THE CONTRACTOR SHALL VERIFY EXISTING JOINT LAYOUT,SIZES OF EXISTING STRUCTURAL MEMBERS AND PREPARE SHOP DRAWINGS SHOWING JOINT MODIFICATIONS,CURB PLATES, EXTENSIONS,LIMITS OF REMOVALS AND DETAILS OF NEW DECK,PARAPET,AND ABUTMENT CONSTRUCTION. SHOP DRAWINGS UNDER THIS ITEM MAY BE PREPARED AFTER FABRICATION IN ORDER TO SPEED CONSTRUCTION.

THE CONTRACTOR SHALL MAKE NECESSARY MEASUREMENTS AND PREPARE SKETCHES,DRAWINGS, TABLES,ETC. THE ENGINEER SHALL HAVE AUTHORITY AND RESPONSIBILITY FOR ENSURING THAT THE FABRICATED STEEL IS ACCEPTABLE. TECHNICAL ASSISTANCE WILL BE PROVIDED ON REQUEST BY THE BUREAU OF BRIDGES. MILL TEST REPORTS AND SHIPPING DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO INCORPORATING STEEL ITEMS INTO THE WORK,AS REQUIRED BY 501.07. AFTER FABRICATION THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL TO ENSURE THAT THE DRAWINGS DEPICT THE STEEL AS ACTUALLY INCORPORATED INTO THE WORK. THE ENGINEER WILL THEN SEND ONE APPROVED SET TO THE BUREAU OF BIDGES FOR INFORMATION. THE FABRICATOR SHALL FURNISH A 35 MILLIMETER MICROFILM COPY OF EACH SHOP DRAWING,WHICH SHALL BE MOUNTED ON AN APERTURE CARD AS SPECIFIED IN 501.05.

CERAMIC GLAZED TILE AND MORTAR BASE

Description. This work shall consist of furnishing and installing ceramic vitreous glazed tile on the walls of the tunnel, with cement mortar base on the wall surfaces, at locations as directed by the Engineer, in order to replace missing wall tiles.

Materials.

Tile. Tile shall be ceramic vitreous glazed wall tile of the sizes and shapes shown on the contract drawings. The quality of the tile shall be standard grade as defined in the United States Department of Commerce, Simplified Practice Recommendation R-61-61, entitled "Ceramic Tiles for Floors and Walls."

The tile shall have a nominal size of 4-1/4 inches square. The size of the tile shall not vary from the nominal size of 4-1/4 inches square by more than 3/64 inch. All tile shall be of a uniform thickness of not more than 9/16 inch nor less than 3/8 inch, including the projecting lugs or keys specified,and not less than 5/16 inch thick exclusive of said lugs or keys. They shall be graded for size into groups by the manufacturer for the Contractor, and each group shall be composed of one size tile varying not more than 1/32 inch. Each group of sizes shall be segregated and shipments shall be made in substantial quantities of lots of one size.

The tile shall have an approved cushion edge. The backs shall be free from glaze, glaze sheen or film. The edges shall be reasonably free from a glaze coating and shall not have drops or globules exceeding 1/64 inch in thickness. The body shall be free from convex warpage exceeding 0.2 percent of the diagonal of the square and shall be free from concave warpage exceeding 0.4 percent of the diagonal. They shall be free from wedging or crooked edges exceeding 0.7 percent, and from other imperfections such as pressing cracks, dents, swelling and chipping.

All tile shall have a semi-matte glaze finish on the face. The glazed surface shall be smooth, easily cleaned and free from all imperfections or injurious defects and free from all imperfections or injurious defects such as waviness, pinholes, specks, spots, blisters, feathering, crawling, crazing, chipping, scumming, discoloration or sanding to an extent which would affect the appearance of the tile.

The color of the tile shall approximate the color of the existing tiles, and shall meet with the approval of the Engineer.

Tiles shall be manufactured with projecting lugs or keys on the backs and with rough back surfaces, so as to furnish a satisfactory mechanical bond with the supporting mortar. The width of the lugs or keys on the back face of the lugs or keys shall be appreciably greater than the width at the base of said lugs or keys. The lugs or keys shall project not less than 3/32 inch beyond the back face of the body of the tile and shall be of such pattern as to avoid closed pockets by which air might be entrapped within the mortar backing. If tile is manufactured with projecting edge rims or borders on two or more adjacent sides, there shall be provided at least two slots on each side of the tile where the rims or borders occur, so as to avoid entrapment of air within the mortar backing. The slots shall be not less than 5/16 inch in width of the edge rims or borders and for the full depth of the edge rims or borders to the body of the tile. The pattern of the lugs or keys shall be subject to the approval of the Engineer.

Mortar. Portland cement for use in mortar shall conform to the requirements in 701.04 of the Construction and Material Specifications.

Sand for mortar shall be washed sand and shall be composed of hard, strong, durable grains free from soft or flaky particles, shale, loam, alkali, organic matter and other deleterious substances. It shall contain not more than three per cent of silt by weight as determined by decantation. Sand subjected to the calorimetric test for organic impurities and producing a color darker than the Reference Standard Color Solution, Method of Test for Organic Impurities in Sands for Concrete, A. A. S. H. O. Designation T 21 shall be rejected.

Sand shall be uniformly graded from coarse to fine within the following limits and in addition shall have a fineness modulus of not less than 1.90 nor more than 2.50:

		Total Per Cent by Weight
Passing No.	4 sieve	100
Passing No.	8 sieve	95 to 100
Passing No.	16 sieve	65 to 90
Passing No.	30 sieve	45 to 75
Passing No.	50 sieve	15 to 40
Passing No.	100 sieve	0 to 10

Lime paste shall be made with hydrated lime and water. The hydrated lime shall be soaked in water for at least three days before being used in mortar.

Hydrated lime shall conform to the requirements for Type N lime of the A. S. T. M. Standard Specifications, Serial Designation: C 207.

Water shall conform to the requirements of the Construction and Material Specifications 499.

Mortar proportions shall be as elsewhere herein specified for the various classes of masonry to be furnished and installed by the Contractor.

Cement and sand shall be thoroughly mixed dry; water and, where required, lime paste, shall then be added to produce a plastic homogeneous mortar. The mortar shall be freshly mixed for the work in hand in proper boxes made for that purpose, and no mortar shall be used that has stood beyond such limited time as may be determined by the Engineer. The re-tempering of mortar will not be permitted under any circumstances. No chemicals shall be mixed with the mortar to prevent deterioration during cold weather.

Mortar may be machine mixed. If so mixed, a rotary machine of a pattern approved by the Engineer and mixing only one batch at a time shall be used. The time of mixing each batch after the ingredients are in the mixer shall be determined by the Engineer for each type of machine. Cement and sand shall be measured and mixed dry with lime paste added, where lime paste is required, before being put into the machine.

Installation of Wall Tile. Immediately prior to the application of scratch coats for the installation of wall tile, the concrete surfaces of the walls which are to receive wall tile shall be thoroughly cleaned by water at nozzle pressure or by other methods satisfactory to the Engineer. After cleaning, the surfaces shall be dampened, but not saturated, with water and a neat cement wash shall be applied immediately before the placing of mortar. The neat cement wash shall be thoroughly brushed into the scores or scratches in the surface of the concrete.

Mortar for scratch coats shall be composed of one part of Portland cement and two and one-half parts of sand, by volume, to which may be added lime paste not exceeding fifteen per cent, by volume, of the cement. The amount of water to be added to obtain the proper consistency shall be determined by the Engineer at the beginning of the work, and no variation therefrom will be allowed, unless ordered by the Engineer.

The scratch coat shall be troweled to an even surface, parallel to and not more than three-eighths inch from the back surface of the body of the tile, exclusive of the lugs or keys. Where, due to irregularities in the concrete wall surface, the scratch coat requires a thickness of more than one-half inch, the scratch coat shall be built up in two or more coats; the initial coat shall have a maximum thickness of one-half inch and each subsequent coat shall have a maximum thickness of three-eighths inch. Wherever more than one scratch is necessary, the surface of each coat shall be scored before hardening and shall be dampened immediately before the application of the next coat. The surface irregularities of the final scratch coat shall not exceed one-quarter inch in a length of ten feet. The final scratch coat, while still plastic, shall be deeply scored or scratched horizontally and diagonally with marks about one-half inch apart.

Mortar for the float coat shall be composed of one part of Portland cement and two and one-half parts of sand, by volume, to which may be added lime paste not exceeding twenty-five per cent, by volume, of the cement. The thickness of the float coat shall not exceed three-eighths inch. The interval between the placing of the final scratch coat and the float coat in any location shall be not less than twenty-four hours. The quantity of water shall be as approved by the Engineer.

Where necessary, the surface of the scratch coat shall be thoroughly cleaned before the application of the float coat. Before applying the float coat, the scratch coat shall be thoroughly moistened, but not saturated, and screeds or temporary guide strips shall be mortared to the scratch coat to indicate accurately the surface planes of the float coat. The float coat shall be rodded and floated to a true surface parallel to the finished surface of the wall. It shall be applied only in such quantities as can be covered with tile before the initial set of the mortar.

Immediately after placing the float coat, a skim coat of neat Portland cement not exceeding one-eighth inch in thickness shall be applied uniformly to the back of each tile so as to completely cover the tile and fill all space between lugs or keys and present an even plane surface. Each tile shall be firmly tapped into place and brought flush with adjacent units. Lines shall be kept straight and all finished surfaces shall be true. Broken, cracked, marred or other defective tiles shall be replaced before the mortar has set.

The Contractor shall do all field cutting and drilling required for the installation of the wall tile. All cutting shall preferably be done by power saws, and the edges shall be free from chipping and shall be smooth and straight. Hand cut tile shall be filed or ground smooth on the cut edges.

Approved spacing gauges or devices shall be used to obtain joints of a uniform width of approximately three-thirty-seconds inch. Joints shall be in straight lines parallel and perpendicular to the top of curbs.

Each graded size or lot of wall tile shall be erected in separate segregated groups or areas extending the full height of the wall tile. The size of tile in adjoining groups shall not vary by more than one-thirty-second inch.

Care shall be taken to maintain even, straight lines along the walls. Variations in wall heights due to overrun and underrun of the wall tile shall be taken care of in the widths of the joints.

After the mortar has hardened sufficiently to hold the wall tile in place, loose mortar shall be raked out and the faces of the glazed surfaces shall be thoroughly cleaned with water and while still moist, the joints between the tiles shall be grouted with a mixture of one part Portland cement and one part sand, using sufficient water to obtain a consistency of thick cream. The grout shall be forced into the joints by troweling or other approved methods and shall be finished straight and true. Special care shall be taken to prevent scratching of the glaze on the face of the tile. Prior to hardening, any excess grouting shall be washed off with a sponge and water, leaving all joints full, smooth and flush with the cushion edge of the tile. Remixing or use of grout that has partially hardened will not be permitted.

General Provisions for Installation of Ceiling and Wall Tile. No ceiling or wall tile shall be installed when the temperature where the installation is being made is below fifty degrees F. or likely to fall below fifty degrees F. All freshly laid sections of the tile shall be protected against injury. As the work of setting the tile progresses, the Contractor shall remove all unused material and debris and shall give the tile work a thorough cleaning. Acid solution will not be allowed for cleaning tile surfaces. Before final payment, the Contractor shall remove and replace all imperfect, loosened and misplaced tile, and shall give the tile work a final cleaning. All traces of cement or dust accumulation shall be completely removed.

Cement Mortar Bases. Mortar for bases shall meet the requirements hereinbefore specified for scratch coats.

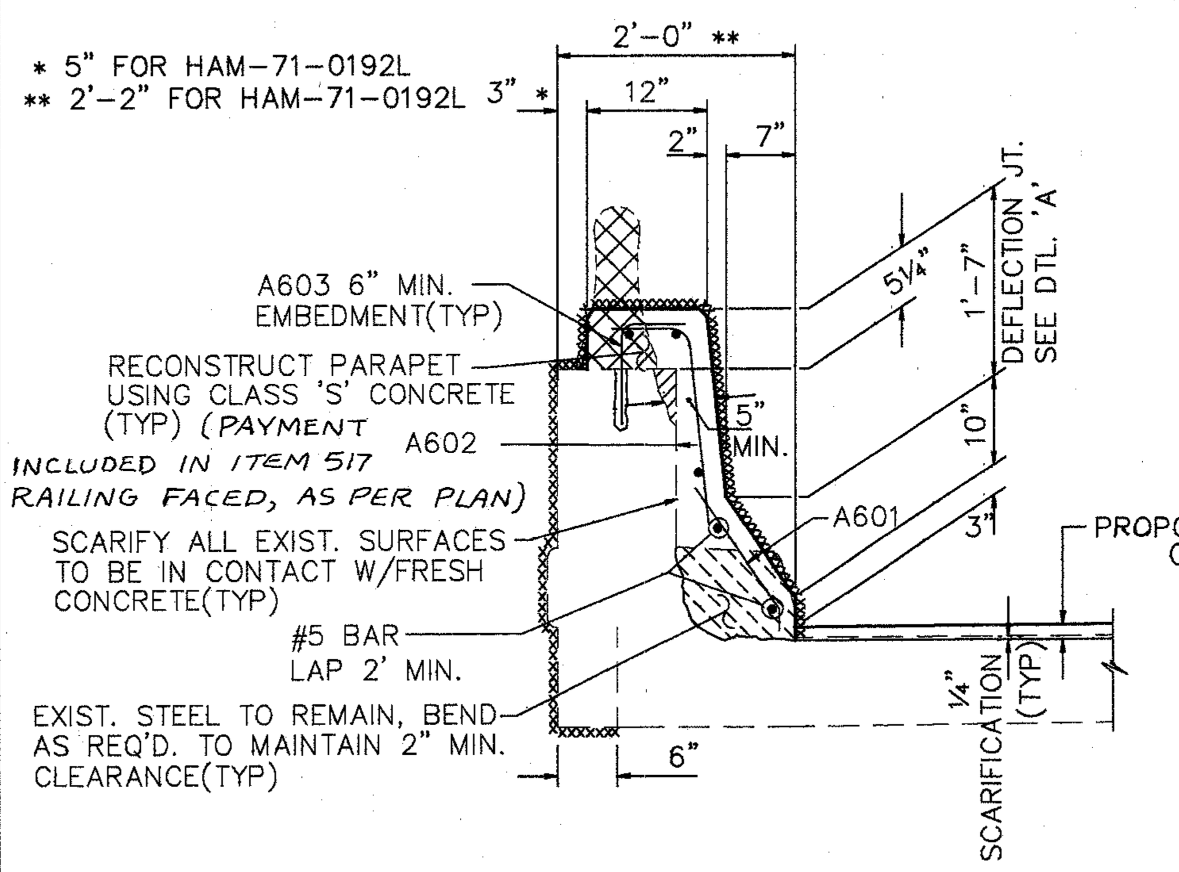
Concrete surfaces shall be clean and shall be set before applying mortar for bases. The mortar shall be applied in coats not exceeding five-eighths (5/8) inch in thickness. The first coat shall be scratched lightly and the second coat shall be applied not sooner than twenty-four hours after the first coat has been placed. Exposed surfaces of cement bases shall be given a smooth troweled surface free from marks and blemishes and shall make a smooth junction with the adjacent surfaces.

Method of Measurement.

(a) The areas of ceramic glazed wall tile to be paid for shall be determined by actual surface measurement of the number of square feet of exposed glazed surfaces of such tiles, complete in place and accepted, without deduction for the area of joints between the tiles.

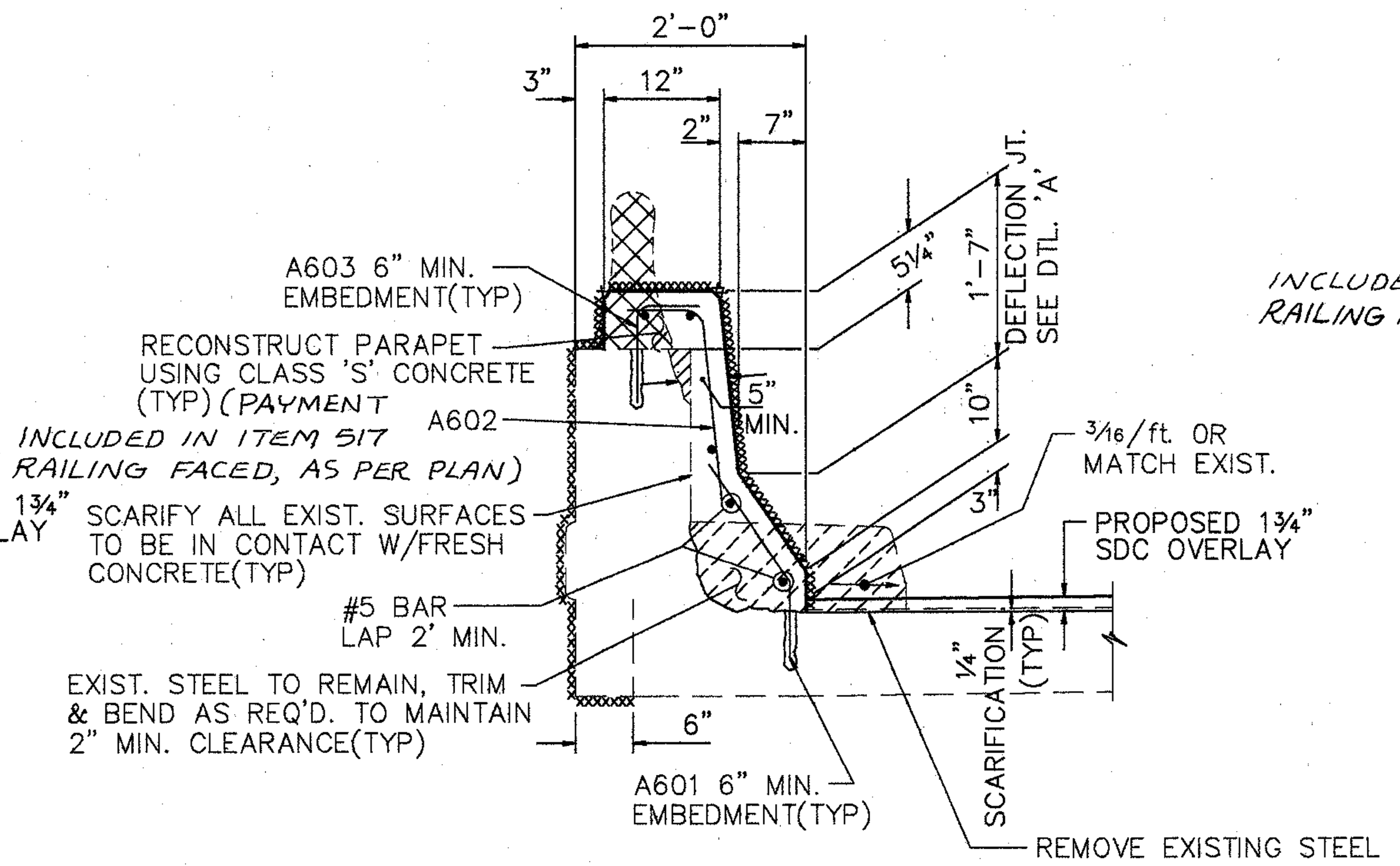
Basis of Payment.

(a) Payment for ceramic glazed wall tile furnished and installed by the Contractor will be made at the respective contract unit prices per square foot for the Item Special, "Ceramic Glazed Wall Tile".

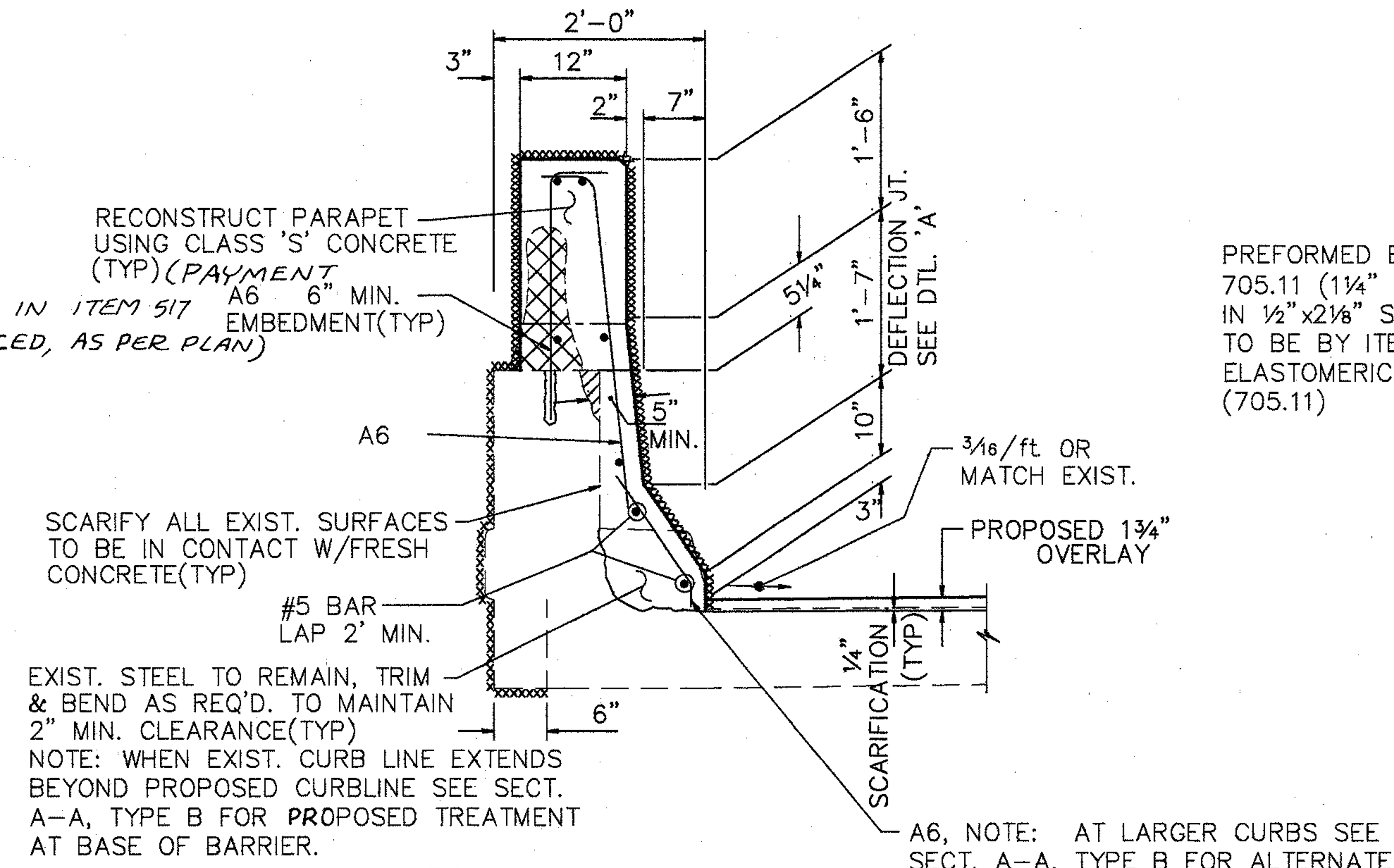


SECTION A–A TYPE A

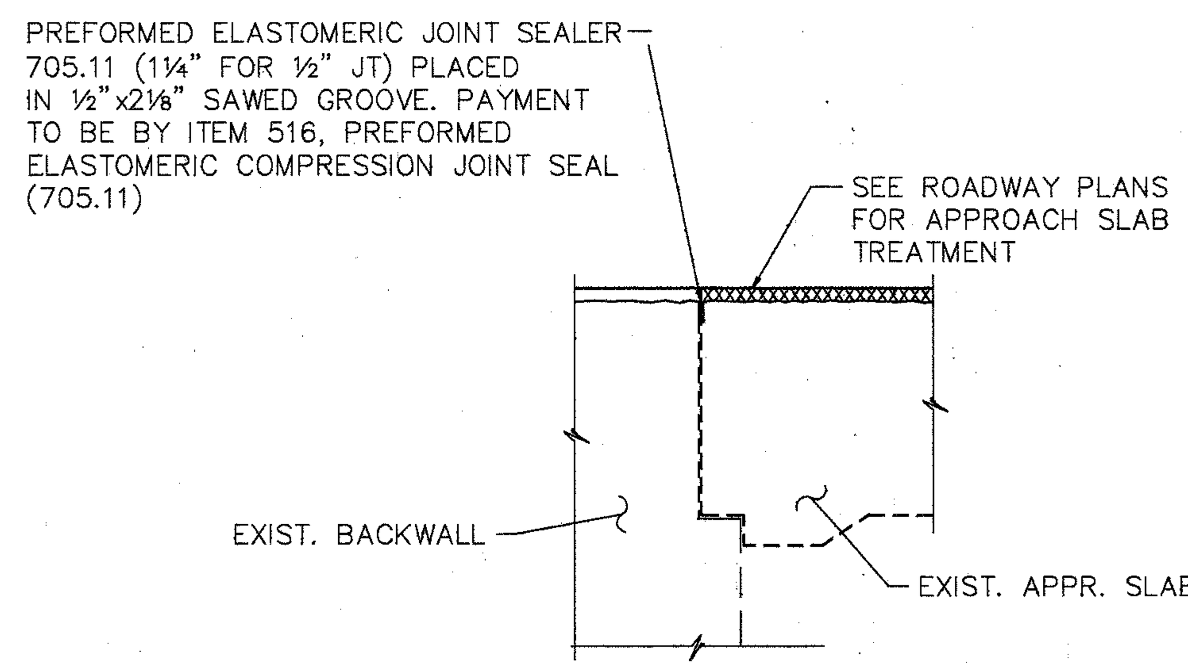
RAILING FACED AS PER PLAN (517)



SECTION A–A TYPE B



SECTION A–A TYPE C

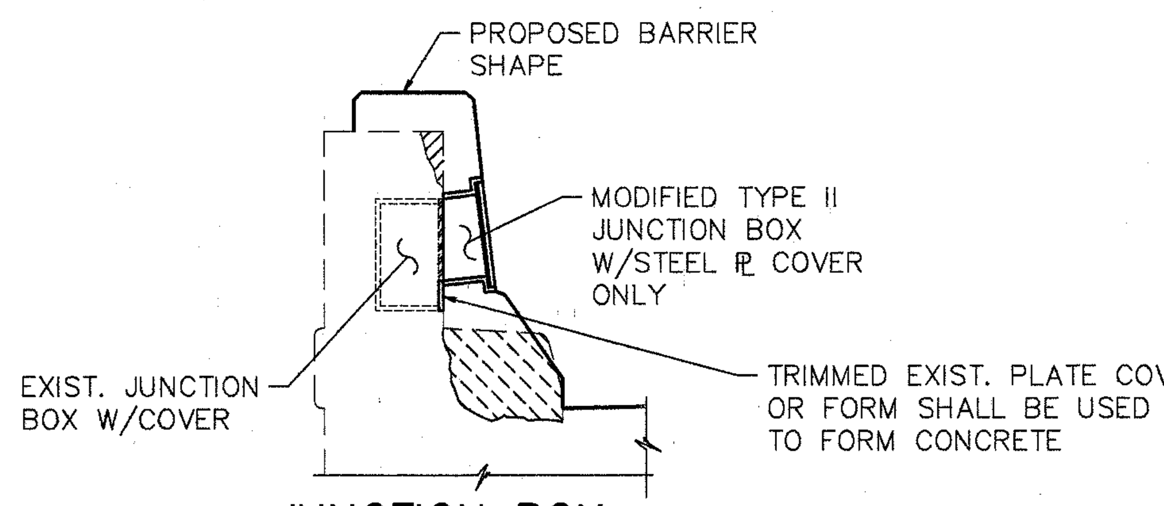


BACKWALL JOINT DETAIL

XXXXX SURFACES TO BE SEALED UNDER ITEM SPECIAL, SEALING OF CONCRETE SURFACE.

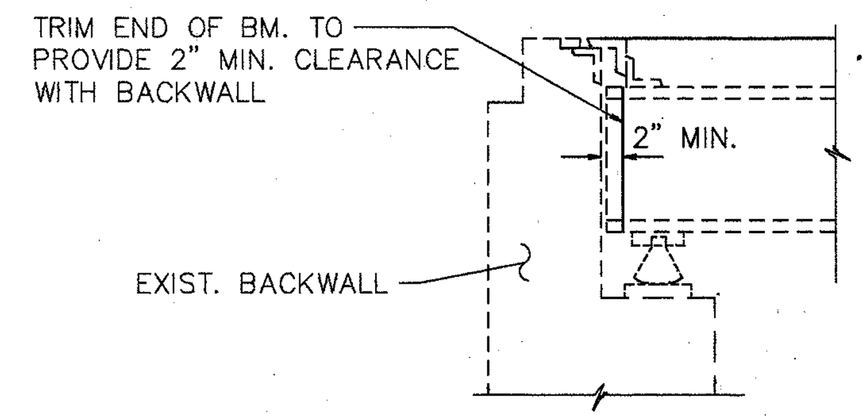
EXISTING CURB TO BE REMOVED UNDER ITEM 202, PORTIONS OF STRUCTURE REMOVED.

EXIST. RAILING & POSTS TO BE REMOVED & DISCARDED. ALL WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED.



JUNCTION BOX EXTENSION DETAIL

THE PROPOSED JUNCTION BOX SHALL BE MADE FROM A TYPE II JUNCTION BOX. BY REMOVING THE FACE OPPOSITE OF THE OPENING & PORTIONS OF THE WALLS, THE EXIST. JUNCTION BOX CAN BE ACCESSED THROUGH A NEW OPENING ON THE PROPOSED BARRIER SHAPE'S FACE. THE EXTENSION SHALL BE ATTACHED TO THE FORMWORK FOR PLACEMENT. REFER TO LIGHTING PLANS FOR FURTHER DETAILS, TYPE AND LOCATION.

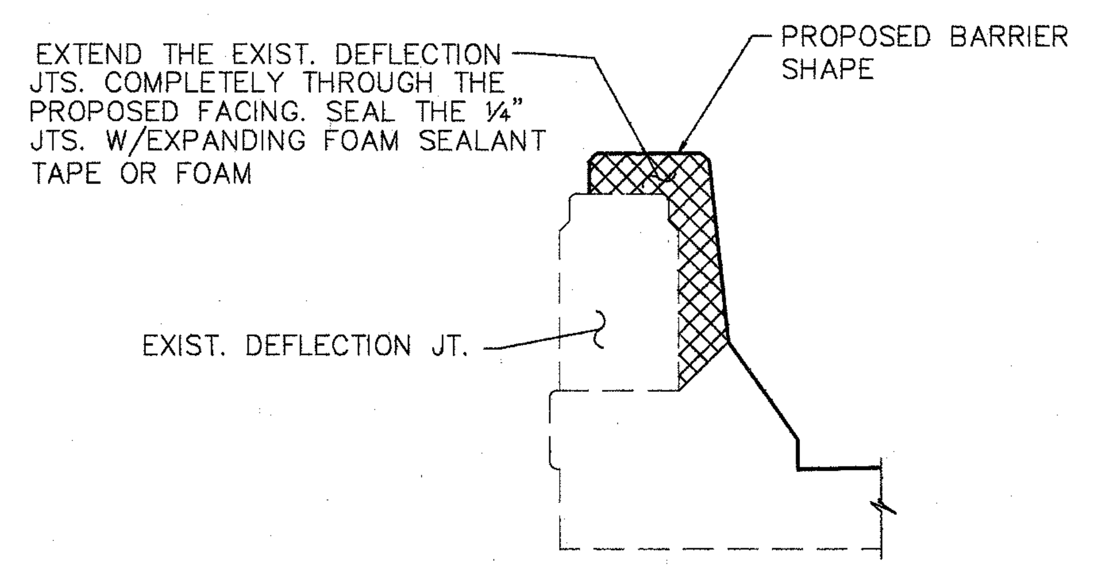


BEAM TRIMMING DETAIL

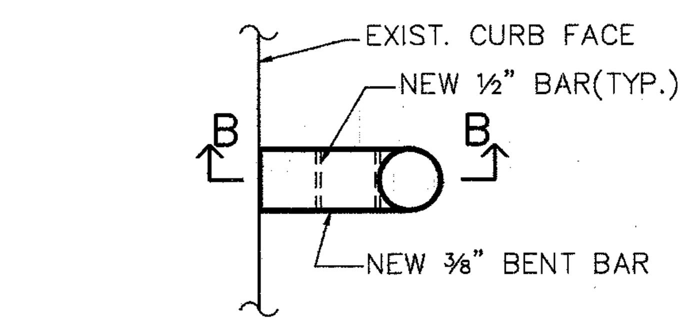
NOTE:
TRIMMED EDGE SHALL HAVE A SMOOTH SURFACE FREE FROM CRACKS, NOTCHES, & BURRS. AREA DISTURBED BY THE TRIMMING OPERATION SHALL BE CLEANED & PAINTED AS PER PROPOSAL NOTE "FIELD PAINTING OF EXISTING STEEL, USING EPOXY AND URETHANE (EEU)." COST OF ALL WORK SHALL BE INCLUDED IN THE PRICE BID PER EACH, ITEM 513, TRIMMING OF BEAM END. THIS WORK SHALL ALSO INCLUDE ANY ADJUSTING OR RELOCATING OF EXISTING CROSS-FRAMING AS NEEDED TO CLEAR THE END OF THE TRIMMED BEAM.

NOTES

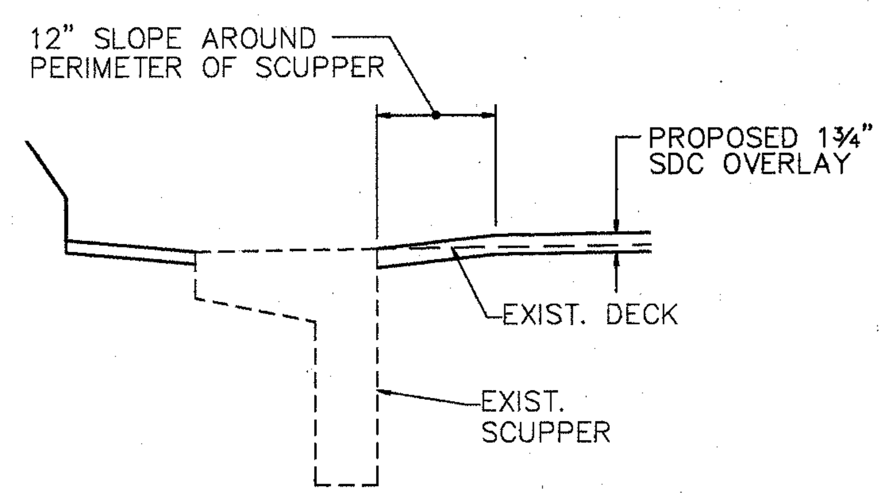
1. INSTALL DEFLECTION JOINTS AS PER DETAIL A THIS SHEET AND GENERAL NOTE FOR ITEM 517. SPACING SHALL COINCIDE WITH EXISTING DEFLECTION JOINT LOCATIONS
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED AND PAID FOR UNDER ITEM 509, EPOXY COATED REINFORCING STEEL, GRADE 60. ALL REBARS SHALL HAVE A MINIMUM OF 2" CLEARANCE.
3. REMOVE END DAMS ON CURBS TO RECEIVE NEW BARRIER SHAPE AND STRIP SEALS. INCLUDE WITH LUMP SUM BID FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED.



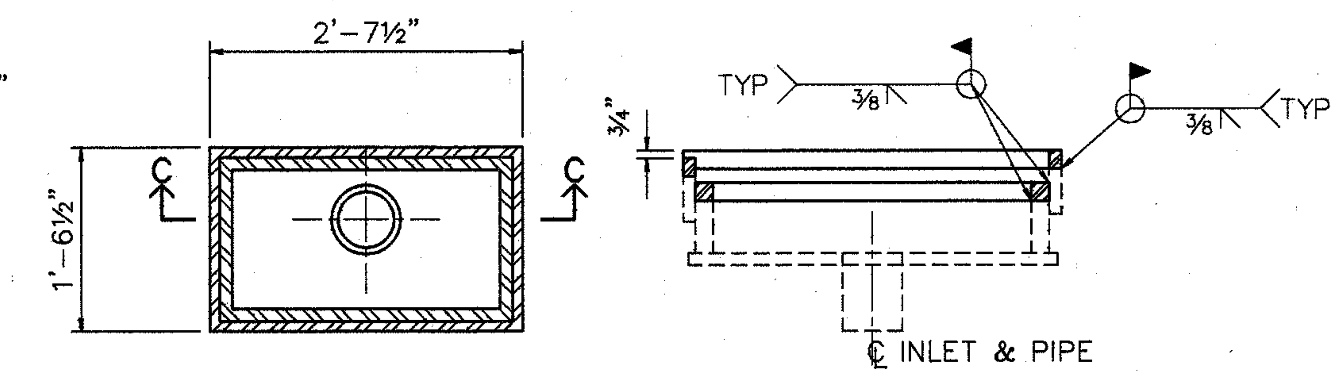
DETAIL A



PLAN



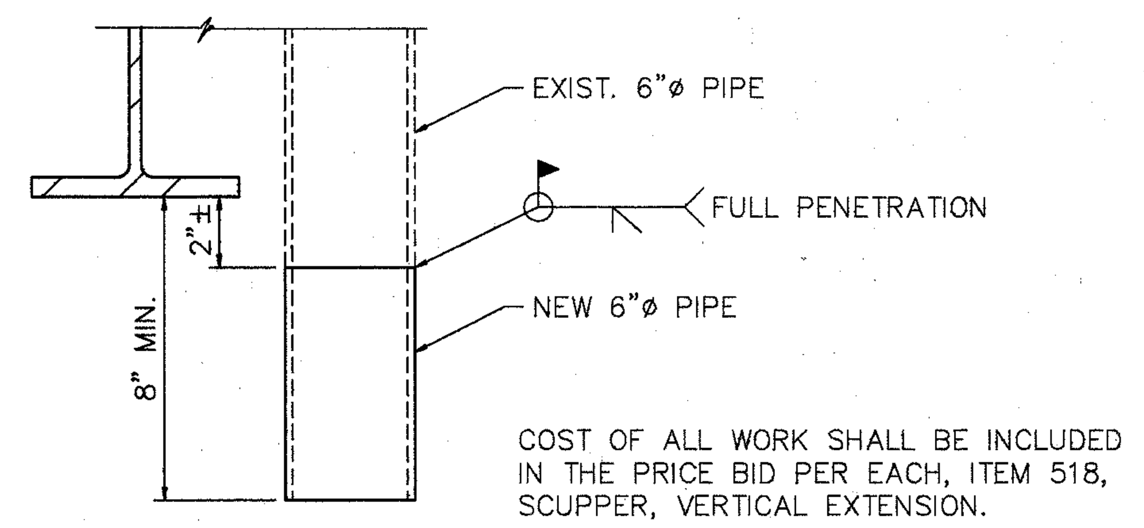
DETAIL C



AREAS TO BE RAISED 1½"

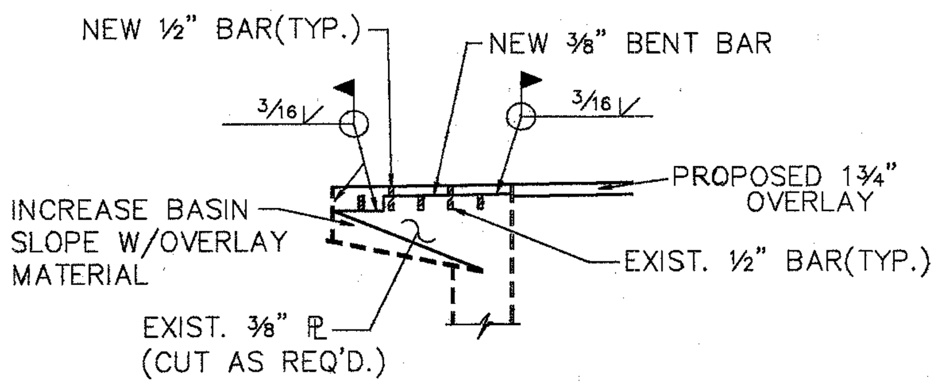
SECTION C–C

DETAIL E



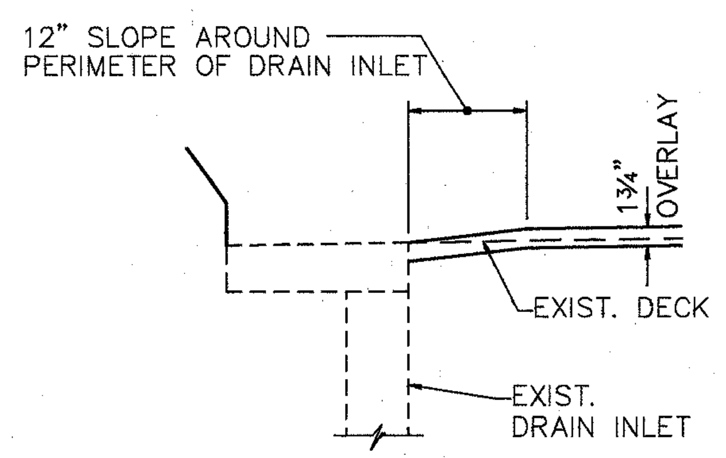
COST OF ALL WORK SHALL BE INCLUDED IN THE PRICE BID PER EACH, ITEM 518, SCUPPER, VERTICAL EXTENSION.

DETAIL F



SECTION B–B

DETAIL B

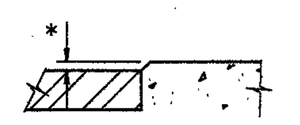


DETAIL D

TYPICAL SCUPPER TREATMENT FOR BRIDGE DECK OVERLAYS

NOTES:

1. WHEN THE SCUPPER/DRAIN INLET IS LOCATED MORE THAN TWO(2) FEET FROM THE PROJECTED EDGE OF PAVEMENT DETAIL 'C' OR 'D' IS TO BE USED.
2. WHEN ANY PHYSICAL PART OF THE SCUPPER/DRAIN INLET IS LOCATED WITHIN TWO(2) FEET OF THE PAVEMENT EDGE, DETAIL 'B' OR 'E' IS TO BE USED.
3. EXTEND STEEL PIPE OF SCUPPER A MIN. OF 8" BELOW BOTTOM FLANGE OF EXIST. BEAM.
4. ALL NEW STEEL AND EXISTING DISTURBED STEEL SURFACES THAT ARE EXPOSED SHALL BE FIELD PAINTED ACCORDING TO PROPOSAL NOTE ENTITLED, "FIELD PAINTING OF EXISTING STEEL, USING EPOXY AND URETHANE (EEU)."
5. ALL LABOR, MATERIALS, EQUIPMENT AND ANY INCIDENTAL ITEMS NEEDED FOR DETAIL 'B' & 'E' TYPE SCUPPER/DRAIN INLET TREATMENT SHALL BE PAID FOR UNDER ITEM 518, SCUPPER MODIFICATION. COSTS FOR DETAIL TYPE 'C' OR 'D' TREATMENT SHALL BE INCLUDED IN THE PRICE FOR ITEM 850, SUPERPLASTICIZED DENSE CONCRETE OVERLAY (1¾" THICK).



* CONCRETE SURFACES ADJACENT TO DECK JTS. SHALL BE FINISHED FLUSH OR SLIGHTLY ABOVE THE STEEL JT. SURFACE.

DETAIL G

WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402–1226
(513) 461–5660

1 / 1

GENERAL DETAILS

BRIDGE NO.

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 11/11/94	

Last Plot MAY 15, 1991 @ 7:37 PM Last Revision By: RACH JUN 11, 1992 @ 1:10 PM

CALC. BY: JDM DATE: 9/7/94	FHWA REGION	STATE	PROJECT	
CHKD. BY: JBB DATE: 10/1/94	5	OHIO		

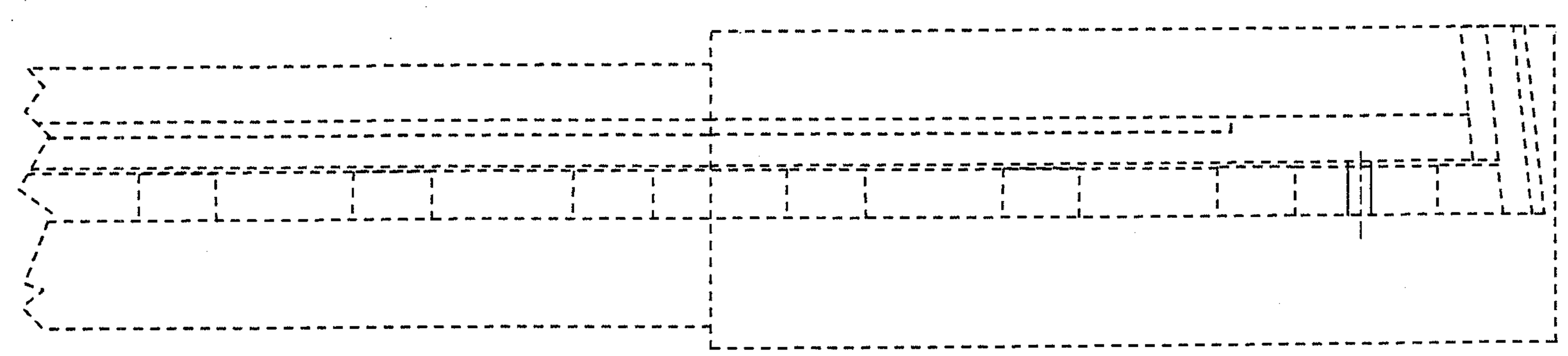
273A / 401

HAM-71-1.30/9.00

CALCULATED JDM

CHECKED JBB

RTMS CONDUIT INSTALLATION DETAIL

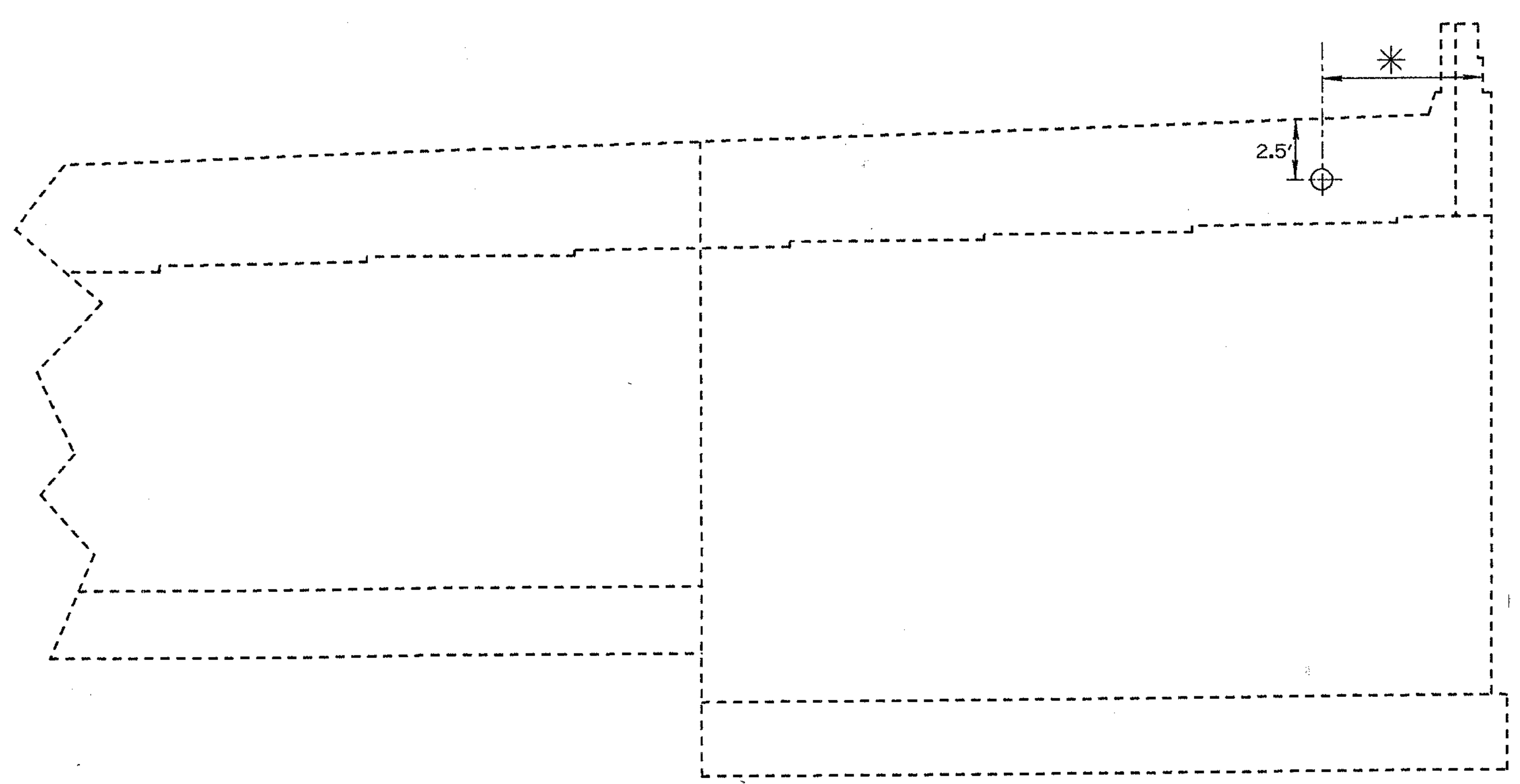


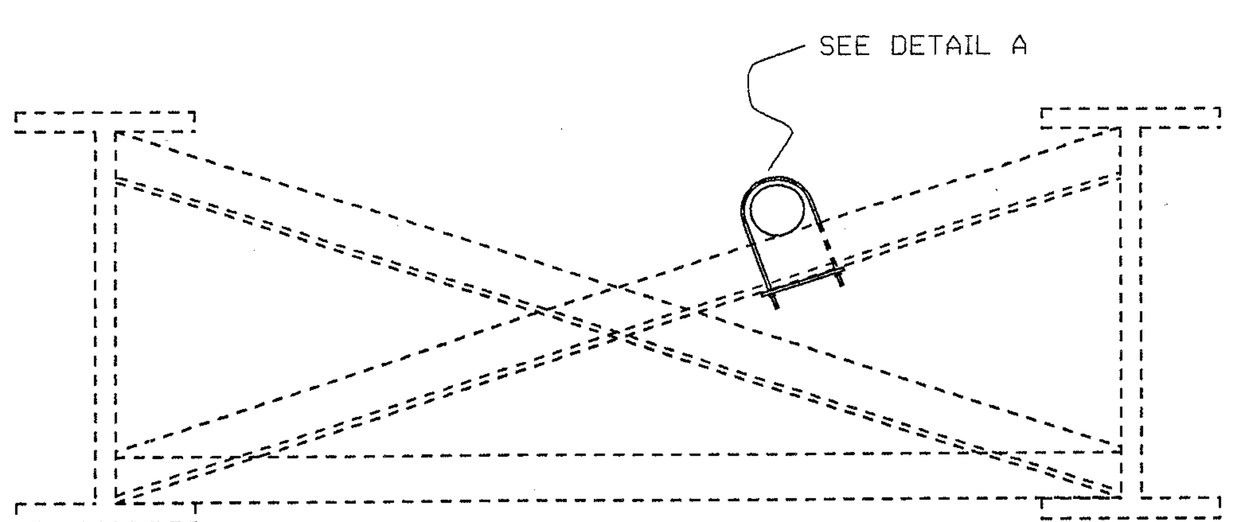
NOTES:

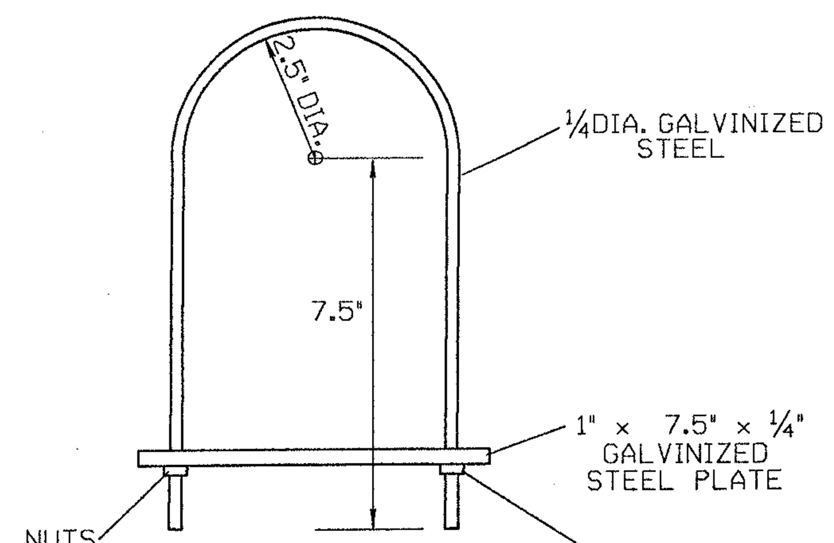
1) FILL SPACE AROUND THE CONDUIT AND/OR FITTINGS WITHIN THE CAVITY WITH A POLYURETHANE FOAM OR OTHER APPROVED COLD APPLIED JOINT SEALER.

2) FIBERGLASS CONDUIT SHALL BE CONNECTED TOGETHER WITH AN APPROVED EPOXY BONDING AGENT

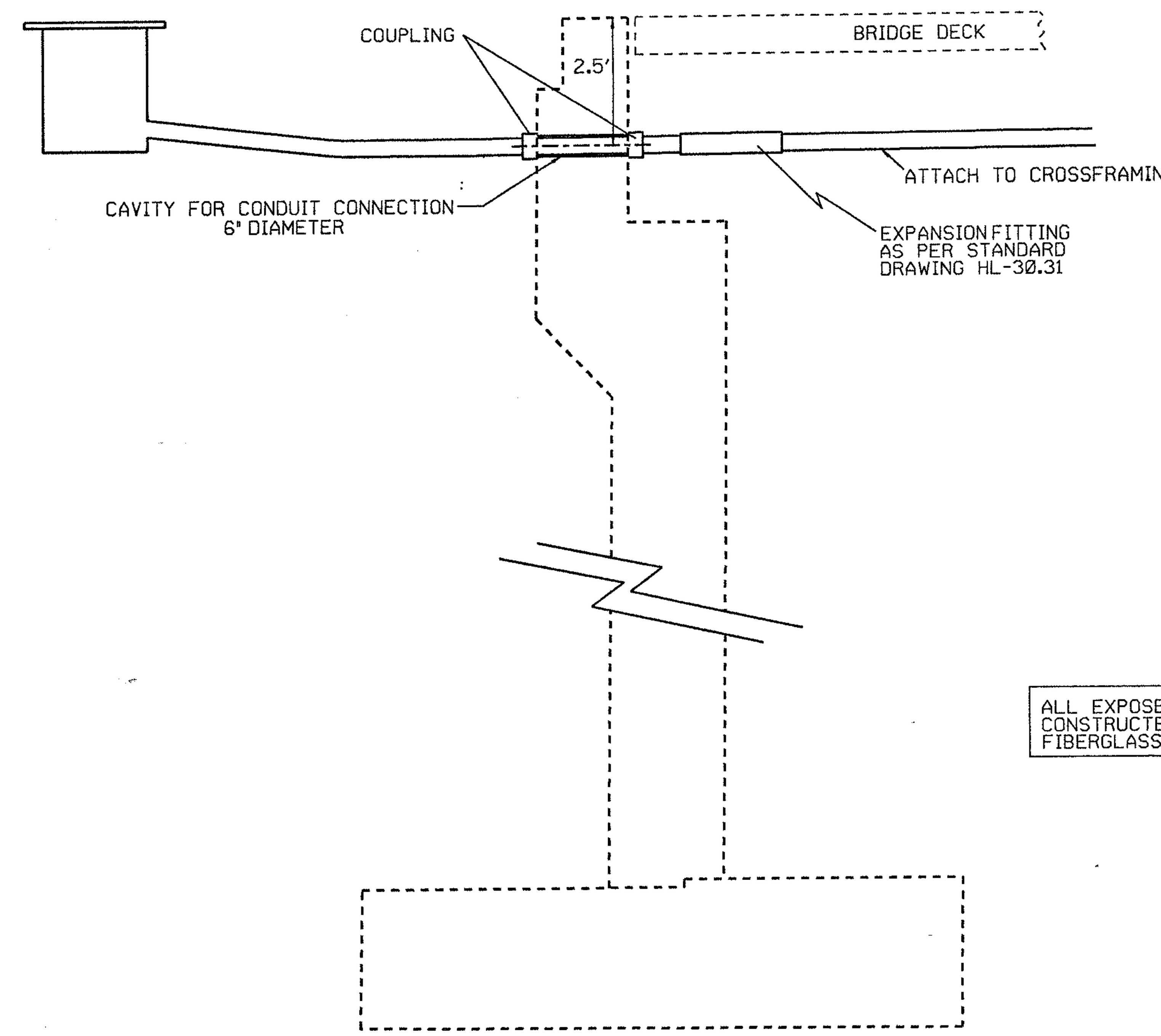
* 4' HAM-71-2.43
2.5' HAM-71-9.65
4' HAM-71-10.63
FIELD VERIFY CROSSFRAME LOCATION BEFORE DRILLING





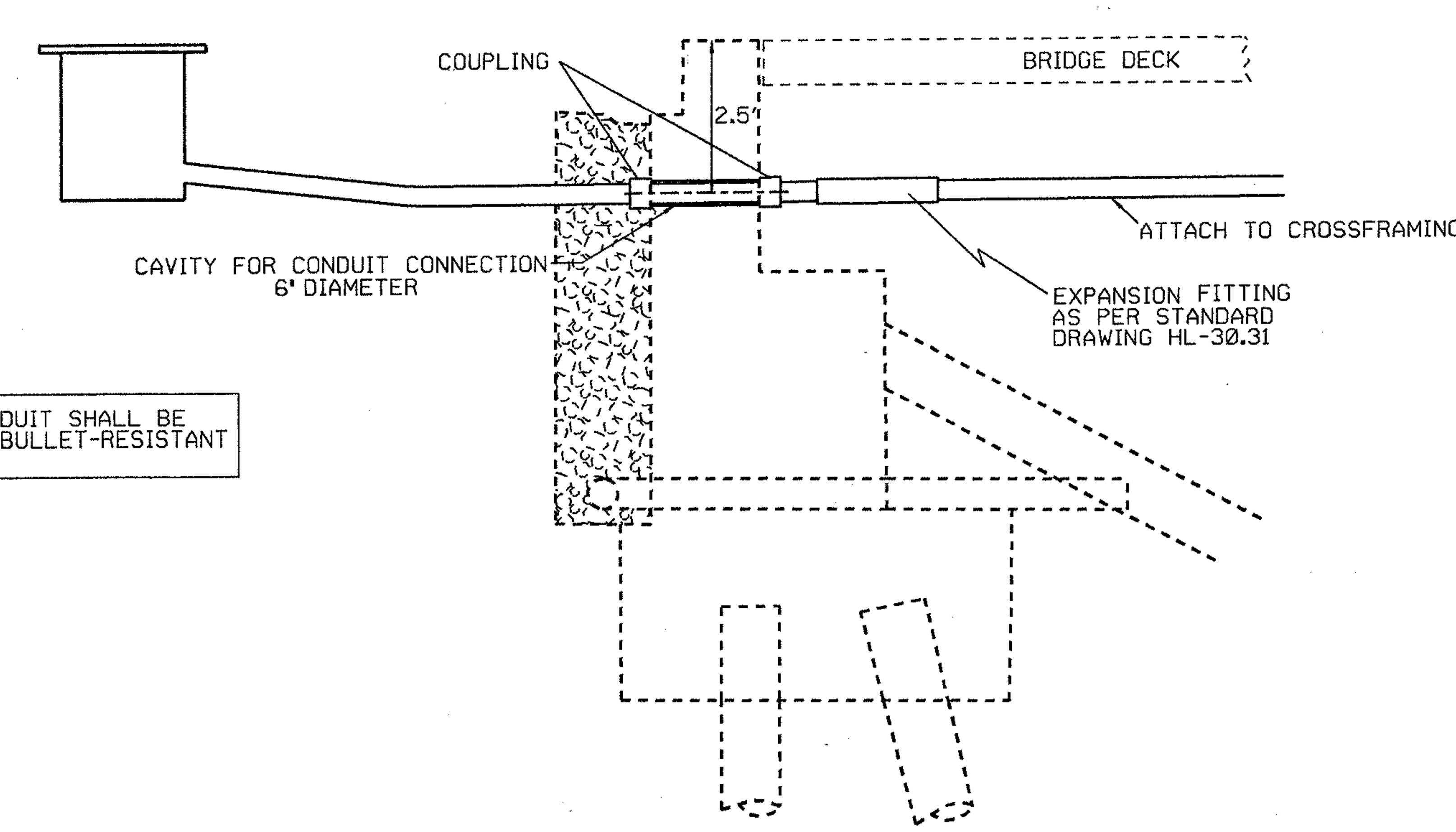


U-BOLT
DETAIL A



ALL EXPOSED CONDUIT SHALL BE CONSTRUCTED OF BULLET-RESISTANT FIBERGLASS.

SECTION
BRIDGE HAM-71-2.43R
ONLY



ALL EXPOSED CONDUIT SHALL BE CONSTRUCTED OF BULLET-RESISTANT FIBERGLASS.

SECTION
BRIDGE HAM-71-9.65R
BRIDGE HAM-71-10.63R

HAM-71-1.30/9.00

273A / 401

BRIDGE GENERAL SUMMARY

BRIDGE NUMBER														PARTICIPATION			ITEM	ITEM EXT.	SUBTOTAL SHT 274	UNITS	DESCRIPTION
71-0130	71-0154	71-0176	71-0192	71-0192W	71-0192N	71-0202	22-0145	71-0221	71-0226	71-0228	42-0235R	42-0257R	42-0264R	STATE & FEDERAL		STATE					
																	201	11000		L.S.	CLEARING AND GRUBBING
LUMP	LUMP		LUMP		LUMP	LUMP	LUMP	LUMP		LUMP	LUMP	LUMP	LUMP				202	11202	LUMP	L.S.	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN
	12700		1590														202	23501	14290	S.Y.	WEARING COURSE REMOVED (ASPHALT), AS PER PLAN
									3								304	20001	3	C.Y.	AGGREGATE BASE, AS PER PLAN
											16		25				503	21100	41	C.Y.	UNCLASSIFIED EXCAVATION
								7210									509	15840	7210	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
				741		1614											509	15840	2355	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
137					961		10074			10509	14700	9387					509	15840	45768	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
			26490										17161				509	15840	43651	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
	100673																509	15840	100673	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
	247		280	71			96	97		42	77		109				510	12201	1019	L.F.	DOWEL HOLES, AS PER PLAN
	14		13		10	20				7	6	10	5				511	34450	85	C.Y.	CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
	8						38	23		5		5	3				511	34400	82	C.Y.	CLASS S CONCRETE, SUPERSTRUCTURE (RECONSTRUCTION)
	483		123														511	34450	606	C.Y.	CLASS S CONCRETE, MISC.: CONC. PARAPET RAILING, AS PER PLAN
4																	511	34450	4	C.Y.	CLASS S CONCRETE, MISC.: RETAINING WALL CAP, AS PER PLAN
	21		32	6			19	10		7	18		30				511	45700	143	C.Y.	CLASS C CONCRETE, ABUTMENT (REPAIR OR RECONSTRUCT)
				1384	1520	2342											SPECIAL	51267200	5246	S.Y.	WATERPROOFING, MISC: SEALING ASPHALT WEARING SURFACE
	5725	792	2065	508	898	1995	1319	820	401	850	1273	817	1722				SPECIAL	51267500	19185	S.Y.	SEALING OF CONCRETE SURFACE *
	1090	246	563	136	36	128	1035	651	245	271	123	166	170				SPECIAL	51267502	4860	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
	200						300	100									513	15501	600	LBS.	STRUCTURAL STEEL (MISC. AND CASTINGS), AS PER PLAN
							5800	1600									513	16000	7400	LBS.	STRUCTURAL STEEL FOR REHABILITATION
	17		31	4			13	27		1							513	21000	93	EACH	TRIMMING OF BEAM END
									56000								SPECIAL	51400050	56000	S.F.	SURFACE PREPARATION OF EXIST. STEEL, SYSTEM OZEU *
									56000								SPECIAL	51400056	56000	S.F.	FIELD PAINTING OF EXIST. STEEL, PRIME COAT, SYSTEM OZEU *
									56000								SPECIAL	51400060	56000	S.F.	FIELD PAINTING OF EXIST. STEEL, INTERMEDIATE COAT, SYSTEM OZEU *
									56000								SPECIAL	51400066	56000	S.F.	FIELD PAINTING OF EXIST. STEEL, FINISH COAT, SYSTEM OZEU *
									100								SPECIAL	51400504	100	MAN HOUR	GRINDING FINS, TEARS, SLIVERS *
																	SPECIAL	51400508		L.F.	GRINDING FLANGE EDGES *
							5800	1600									514	00610	7400	LBS.	FIELD PAINTING OF NEW STEEL, SYSTEM IZEU*
	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP		LUMP	LUMP	LUMP	LUMP				514	27704	LUMP	L.S.	FIELD PAINTING, MISC.: FIELD PAINTING EXISTING STEEL, EEU *
							30	24				72					516	10000	126	L.F.	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL (705.11)
	115																516	10901	115	L.F.	ELASTOMERIC COMPRESSION SEAL, AS PER PLAN
	494		465				320	247	20	107	69	77	96				516	11210	1895	L.F.	STRUCTURAL EXP. JT., INCLUDING ELASTOMERIC STRIP SEAL
												2					516	13600	2	S.F.	1" PREFORMED EXPANSION JOINT FILLER
30	195		100	50	10	50	50	50	100	10	100	150	210				516	14600	1105	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2"x4" SEALER, AS PER PLAN
21													13				516	14600	34	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 3"x5" SEALER, AS PER PLAN
													8				516	30500	8	L.F.	PVC WATERSTOP
				139	46	160											516	31000	345	L.F.	JOINT SEALER, 705.04
	80	4	32	19	8	7	20	31		8	8	8	7				516	45304	232	EACH	REFURBISH BEARING DEVICE
	2520		465							745	923	645	1056				517	76201	6354	L.F.	RAILING FACED, AS PER PLAN (32" HIGH)
																	517	76201		L.F.	RAILING FACED, AS PER PLAN (50" HIGH)
						2				1	1						518	12700	4	EACH	SCUPPER, VERTICAL EXTENSION
	13		8				3	3		4	4	3	6				518	12800	44	EACH	SCUPPER MODIFICATION
											16		25				518	21200	41	C.Y.	POROUS BACKFILL WITH FILTER FABRIC
											34		43				518	41100	77	L.F.	6" PERFORATED HELICAL CORRUGATED STEEL PIPE, 707.01
	LUMP		LUMP	LUMP	LUMP			LUMP		LUMP	LUMP		LUMP				518	63300	LUMP	L.S.	STRUCTURE DRAINAGE, MISC.: MODIFY DRAINAGE PIPING
	345	33	88	4	16	12	235	62	3	2		11					519	11100	811	S.F.	PATCHING CONCRETE STRUCTURE
	160		16				32	29			10	50	64				SPECIAL	51912600	361	L.F.	CONCRETE REPAIR BY EPOXY INJECTION *
	166																SPECIAL	53000400	166	EACH	STRUCTURAL MISC.: LATERAL BRACING GUSSET PLATE RETROFIT (INTERMEDIATE).
																	601	20001		S.Y.	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN
			1														604	33400	1	EACH	MANHOLE COVER
									72								607	20001	72	L.F.	FENCE TYPE CL, AS PER PLAN
									9								607	20101	9	L.F.	FENCE TYPE CL MISC. HEIGHT, AS PER PLAN
165									15								SPECIAL	60739910	180	L.F.	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC
																	653	10000		C.Y.	TOPSOIL FURNISHED AND PLACED
																	660	25000		S.Y.	SODDING, STAKED
	14573		3750				1976	1690		1275	1581	942	2832				845	40210	28619	S.Y.	LATEX MODIFIED CONCRETE: OVERLAY (1-3/4" THICK), ON EXISTING DECK
	224		32				81	16		46	26	10	28				845	11000	463	C.Y.	LATEX MODIFIED CONCRETE, VARIABLE THICKNESS
	1		1				2	1		1	1	1	1				845	30000	9	C.Y.	FULL DEPTH REPAIR

* SEE PROPOSAL NOTE

Last Plot SEPT. 26, 1991 @ 3:42 PM G:\STR\16596-03\71GSS1I11 Last Revision By: RACH MAY 19, 1994 @ 3:52 PM

BRIDGE GENERAL SUMMARY

BRIDGE NUMBER 71-0243L	71-0243R	71-0289	71-0965L	71-0965R	71-0986	71-0987	71-1063L	71-1063R	SUBTOTAL SHT 274	SUBTOTAL SHT 275	PARTICIPATION STATE & FEDERAL	STATE	ITEM	ITEM EXT	GRAND TOTAL	UNITS	DESCRIPTION
		LUMP								LUMP			201	11000	LUMP	L.S.	CLEARING AND GRUBBING
LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP		202	11202	LUMP	L.S.	PORTIONS OF STRUCTURE REMOVED, OVER 20 FOOT SPAN
							1300	1300	14290	2600			202	23501	16890	S.Y.	WEARING COURSE REMOVED (ASPHALT), AS PER PLAN
									3				304	20001	3	C.Y.	AGGREGATE BASE, AS PER PLAN
23									41	23			503	21100	64	C.Y.	UNCLASSIFIED EXCAVATION
									7210				509	15840	7210	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
									2355				509	15840	2355	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
		667	7335	7746	12925	7726	10342	11630	45768	58371			509	15840	104139	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
23392	31289								43651	54681			509	15840	98332	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
									100968				509	15840	100673	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
174	154	25	141	141			125	161	1019	921			510	12201	1940	L.F.	DOWEL HOLES, AS PER PLAN
4	5		10	13	8	8	13	13	85	74			511	34450	159	C.Y.	CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
4	6								82	10	92		511	34400	92	C.Y.	CLASS S CONCRETE, SUPERSTRUCTURE (RECONSTRUCTION)
									606		606		511	34450	606	C.Y.	CLASS S CONCRETE, MISC.: CONC. PARAPET RAILING, AS PER PLAN
									4		4		511	34450	4	C.Y.	CLASS S CONCRETE, MISC.: RETAINING WALL CAP, AS PER PLAN
31	12	3	12	11			10	15	143	94			511	45700	237	C.Y.	CLASS C CONCRETE, ABUTMENT (REPAIR OR RECONSTRUCT)
									5246			5246	SPECIAL	51267200	5246	S.Y.	WATERPROOFING, MISC: SEALING ASPHALT WEARING SURFACE
2190	3088	1337	909	905	140	804	1056	1183	19185	11612			SPECIAL	51267500	30797	S.Y.	SEALING OF CONCRETE SURFACE *
188	682	140	149	243	92	56	193	301	4860	2044			SPECIAL	51267502	6904	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
100	1550								600	1650	2250		513	15501	2250	LBS.	STRUCTURAL STEEL (MISC. AND CASTINGS), AS PER PLAN
									7400		7400		513	16000	7400	LBS.	STRUCTURAL STEEL FOR REHABILITATION
	4	12	15	18	2		13	18	93	82	175		513	21000	175	EACH	TRIMMING OF BEAM END
					24900	14350	24625	41195	56000	105070			SPECIAL	51400050	161070	S.F.	SURFACE PREPARATION OF EXIST. STEEL, SYSTEM OZEU *
					24900	14350	24625	41195	56000	105070			SPECIAL	51400056	161070	S.F.	FIELD PAINTING OF EXIST. STEEL, PRIME COAT, SYSTEM OZEU *
					24900	14350	24625	41195	56000	105070			SPECIAL	51400060	161070	S.F.	FIELD PAINTING OF EXIST. STEEL, INTERMEDIATE COAT, SYSTEM OZEU *
					24900	14350	24625	41195	56000	105070			SPECIAL	51400066	161070	S.F.	FIELD PAINTING OF EXIST. STEEL, FINISH COAT, SYSTEM OZEU *
					100	100	100	100	100	400			SPECIAL	51400504	500	MAN HOUR	GRINDING FINS, TEARS, SLIVERS *
					2672					2672	2672		SPECIAL	51400508	2672	L.F.	GRINDING FLANGE EDGES *
									7400		7400		514	00610	7400	LBS.	FIELD PAINTING OF NEW STEEL, SYSTEM IZEU *
LUMP	LUMP	LUMP	LUMP	LUMP					LUMP	LUMP			514	27704	LUMP	L.S.	FIELD PAINTING, MISC.: FIELD PAINTING EXISITING STEEL, EEU *
		54			79	66			126	199			516	10000	325	L.F.	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL (705.11)
									115		115		516	10901	115	L.F.	ELASTOMERIC COMPRESSION SEAL, AS PER PLAN
155	338	101	170	166	83	71	144	217	1895	1445			516	11210	3340	L.F.	STRUCTURAL EXP. JT., INCLUDING ELASTOMERIC STRIP SEAL
17									2	17	19		516	13600	19	S.F.	1" PREFORMED EXPANSION JOINT FILLER
75	25		26	35				26	1105	187			516	14600	1292	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2"x4" SEALER, AS PER PLAN
									34				516	14600	3	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 3"x5" SEALER, AS PER PLAN
15									8	15	23		516	30500	23	L.F.	PVC WATERSTOP
									345				516	31000	345	L.F.	JOINT SEALER, 705.04
24	58	12	18	18	8	8	14	21	232	181			516	45304	413	EACH	REFURBISH BEARING DEVICE
1514			164	154	976	550	257	282	6354	3897	10251		517	76201	10251	L.F.	RAILING FACED, AS PER PLAN (32" HIGH)
	2310		160	160			260	286		3176	3176		517	76201	3176	L.F.	RAILING FACED, AS PER PLAN (50" HIGH)
			9	10	12	7	12	20	4	70	74		518	12700	74	EACH	SCUPPER, VERTICAL EXTENSION
		3			6	6			44	15	59		518	12800	59	EACH	SCUPPER MODIFICATION
23									41	23			518	21200	64	C.Y.	POROUS BACKFILL WITH FILTER FABRIC
70									77	70	147		518	41100	147	L.F.	6" PERFORATED HELICAL CORRUGATED STEEL PIPE, 707.01
LUMP	LUMP								LUMP	LUMP	LUMP		518	63300	LUMP	L.S.	STRUCTURE DRAINAGE, MISC.: MODIFY DRAINAGE PIPING
			27	3	5	125	7	6	811	173			519	11100	984	S.F.	PATCHING CONCRETE STRUCTURE
	20	109			23				361	152			SPECIAL	51912600	513	L.F.	CONCRETE REPAIR BY EPOXY INJECTION *
56	120								166	176			SPECIAL	53000400	342	EACH	STRUCTURE MISC.: LATERAL BRACING GUSSET PLATE RETROFIT (INTERMEDIATE)
		210					28	60		298			601	20001	298	S.Y.	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN
									1		1		604	33400	1	EACH	MANHOLE COVER
									72				607	20001	72	L.F.	FENCE TYPE CL, AS PER PLAN
									9				607	20101	9	L.F.	FENCE TYPE CL MISC. HEIGHT, AS PER PLAN
									180				SPECIAL	60739910	180	L.F.	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC
		12								12			653	10000	12	C.Y.	TOPSOIL FURNISHED AND PLACED
		140								140			660	25000	140	S.Y.	SODDING, STAKED
4219	10400	1249	1370	1326	1420	804	1557	2526	28619	24871			845	40210	53490	S.Y.	LATEX MODIFIED CONCRETE MISC.: OVERLAY (1-3/4" THICK) ON EXISTING DECK
41	101	85	13	13	56	16	16	99	463	440	903		845	11000	903	C.Y.	LATEX MODIFIED CONCRETE, VARIABLE THICKNESS
1	2	1	1	1	1	1	1	2	9	11			845	30000	20	C.Y.	FULL DEPTH REPAIR

* SEE PROPOSAL NOTE

Last Plot: SEPT. 26, 1991 @ 3:44 PM Last Revision By: D.E.E. AUG. 9, 1994 @ 10:59 AM
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BRIDGE GENERAL SUMMARY

71-0130	71-0154	71-0176	71-0192	71-0192W	71-0192N	71-0202	22-0145	71-0221	71-0226	71-0228	42-0235R	42-0257R	42-0264R	PARTICIPATION: STATE & FEDERAL	PARTICIPATION: STATE	ITEM	ITEM EXT.	SUBTOTAL	UNITS	DESCRIPTION
	500		760	80	125	150	100	100	50	50	75	210	475	2675		516	14600	2675	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: SEAL JOINT BETWEEN ABUTMENT AND CONCRETE SLOPE PROTECTION
	4						1						5	10		516	45305	10	EACH	REFURBISH BEARING DEVICE, AS PER PLAN
	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP		518	63300	LUMP	L.S.	STRUCTURE DRAINAGE, MISC.: SCUPPER AND DRAINAGE PIPE CLEANOUT
	10		12	3	5	5	4	4	2	2	3	8	10	68		601	21100	68	S.Y.	SLOPE PROTECTION, MISC.: REPAIR CONCRETE SLOPE PROTECTION
10														10		SPECIAL	51911600	10	S.F.	PATCHING CONCRETE STRUCTURE, MISC.: CERAMIC GLAZED WALL TILE

71-0243L	71-0243R	71-0289	71-0965L	71-0965R	71-0986	71-0987	71-1063L	71-1063R			SUBTOTAL ABOVE	SUBTOTAL		PARTICIPATION: STATE & FEDERAL	PARTICIPATION: STATE	ITEM	ITEM EXT.	GRAND TOTAL	UNITS	DESCRIPTION
175	235	50									2675	460		3135		516	14600	3135	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: SEAL JOINT BETWEEN ABUTMENT AND CONCRETE SLOPE PROTECTION
6	15							1			10	22		32		516	45305	32	EACH	REFURBISH BEARING DEVICE, AS PER PLAN
LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP	LUMP			LUMP	LUMP		LUMP		518	63300	LUMP	L.S.	STRUCTURE DRAINAGE, MISC.: SCUPPER AND DRAINAGE PIPE CLEANOUT
6	8	2									68	16		84		601	21100	84	S.Y.	SLOPE PROTECTION, MISC.: REPAIR CONCRETE SLOPE PROTECTION
											10			10		SPECIAL	51911600	10	S.F.	PATCHING CONCRETE STRUCTURE, MISC.: CERAMIC GLAZED WALL TILE

349 Orange 276-332

CALC. BY LATM DATE 9-23-92 CHK'D BY DEM DATE 10-4-94	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	276/401

PLAN

PROPOSED WORK

1. REPAIR EXPANSION JOINTS IN RETAINING WALLS AT SOUTHEAST AND NORTHWEST WINGWALLS.
2. REPAIR RETAINING WALL CAP.
3. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED IN THE TUNNEL AT ALL TIMES. FOR NOTE SEE MAINTENANCE OF TRAFFIC PLANS.
4. OTHER WORK AS DESCRIBED IN THESE PLANS.

WOOLPERT CONSULTANTS
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1/3

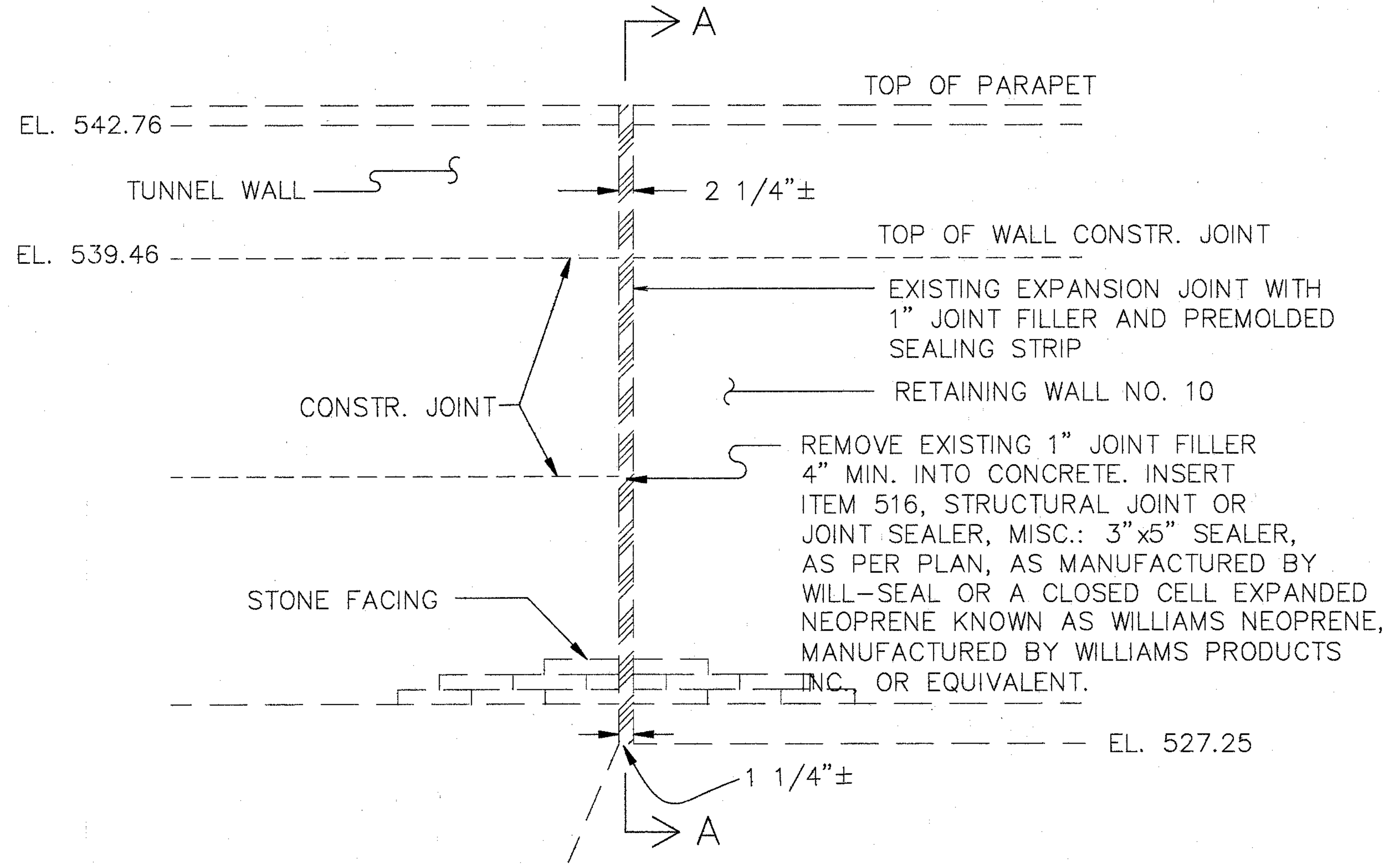
GENERAL PLAN

BRIDGE NO. HAM-71-0130
TUNNEL UNDER LYTLE PARK

HAMILTON COUNTY

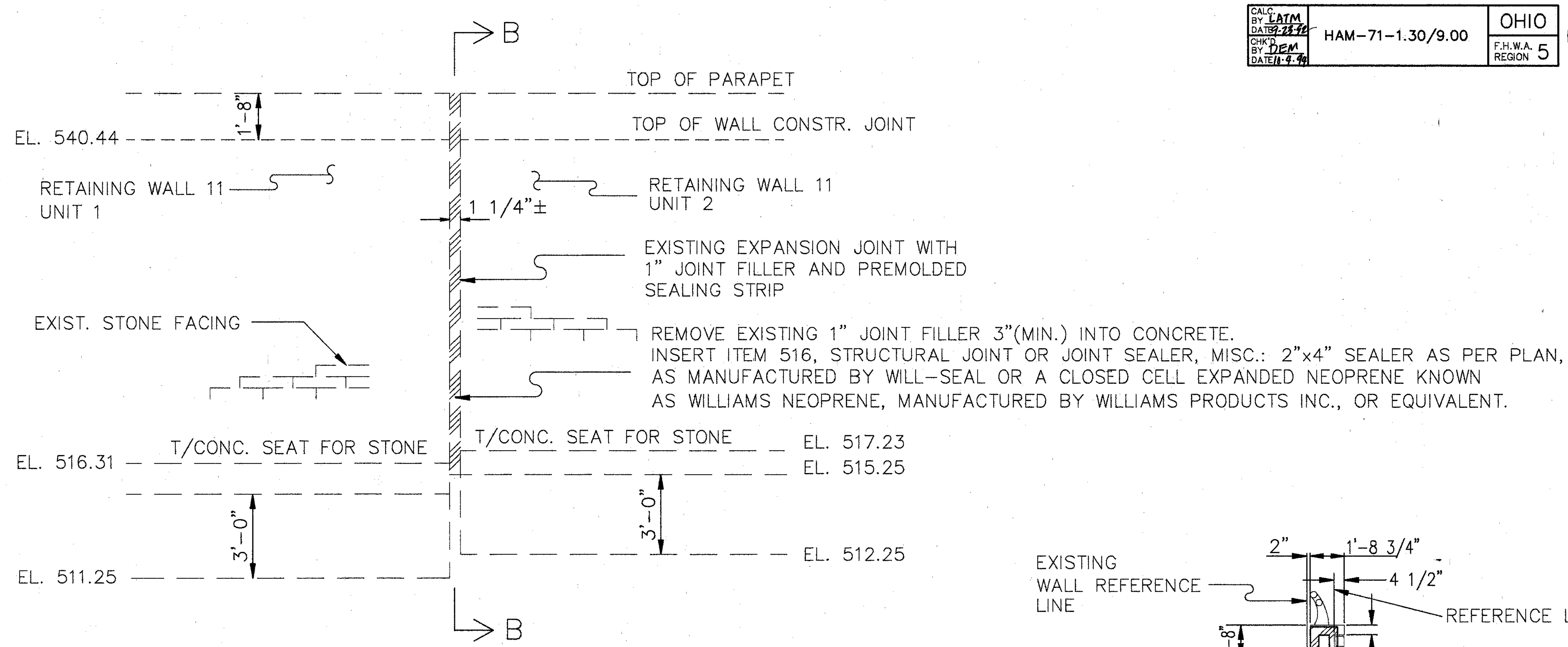
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 11/11/94	

CALC. BY LATM DATE 9-23-92 CHK'D BY DEM DATE 10-4-94	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	277 / 401



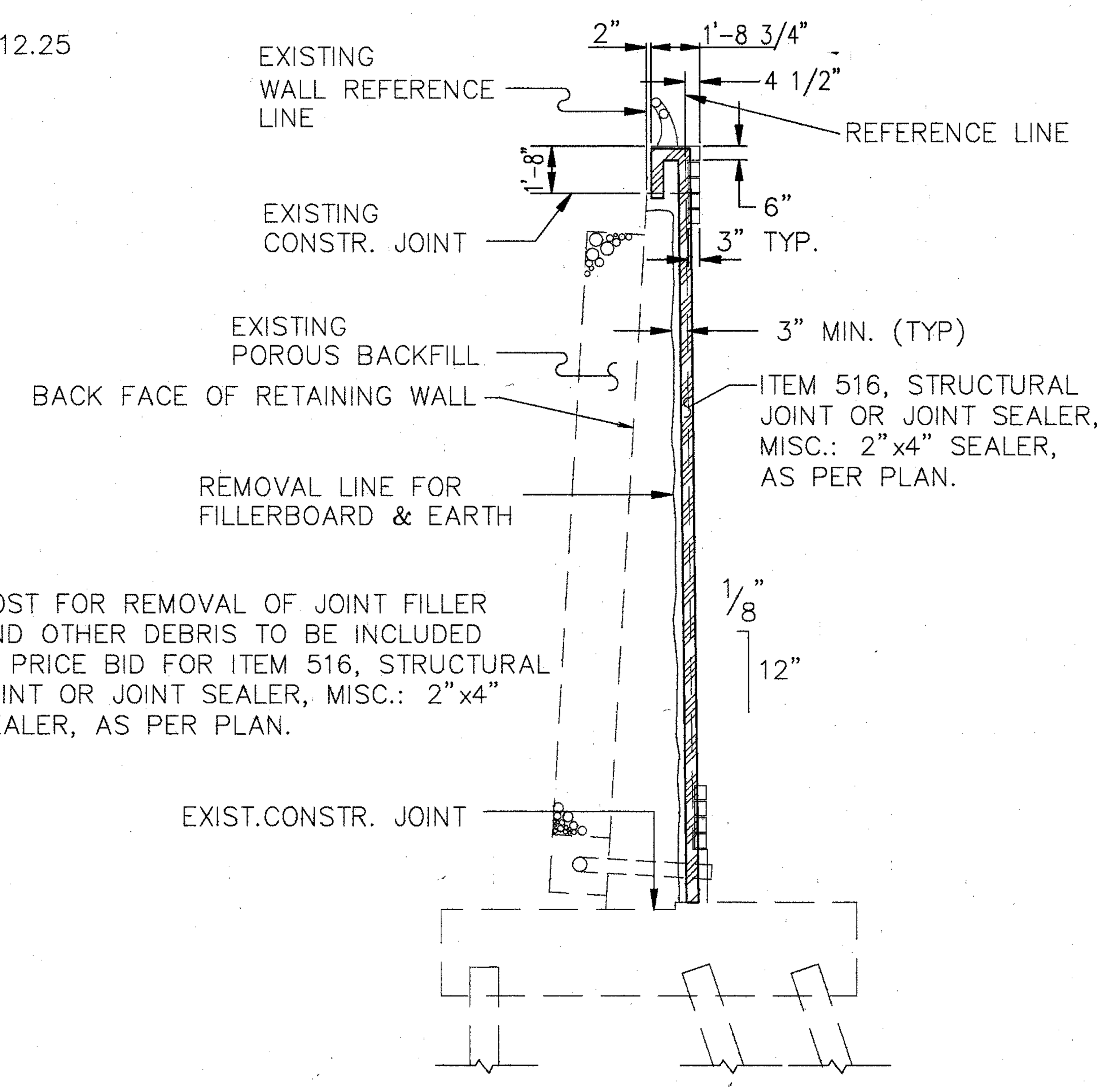
ELEVATION SOUTHEAST EXP. JOINT

NTS



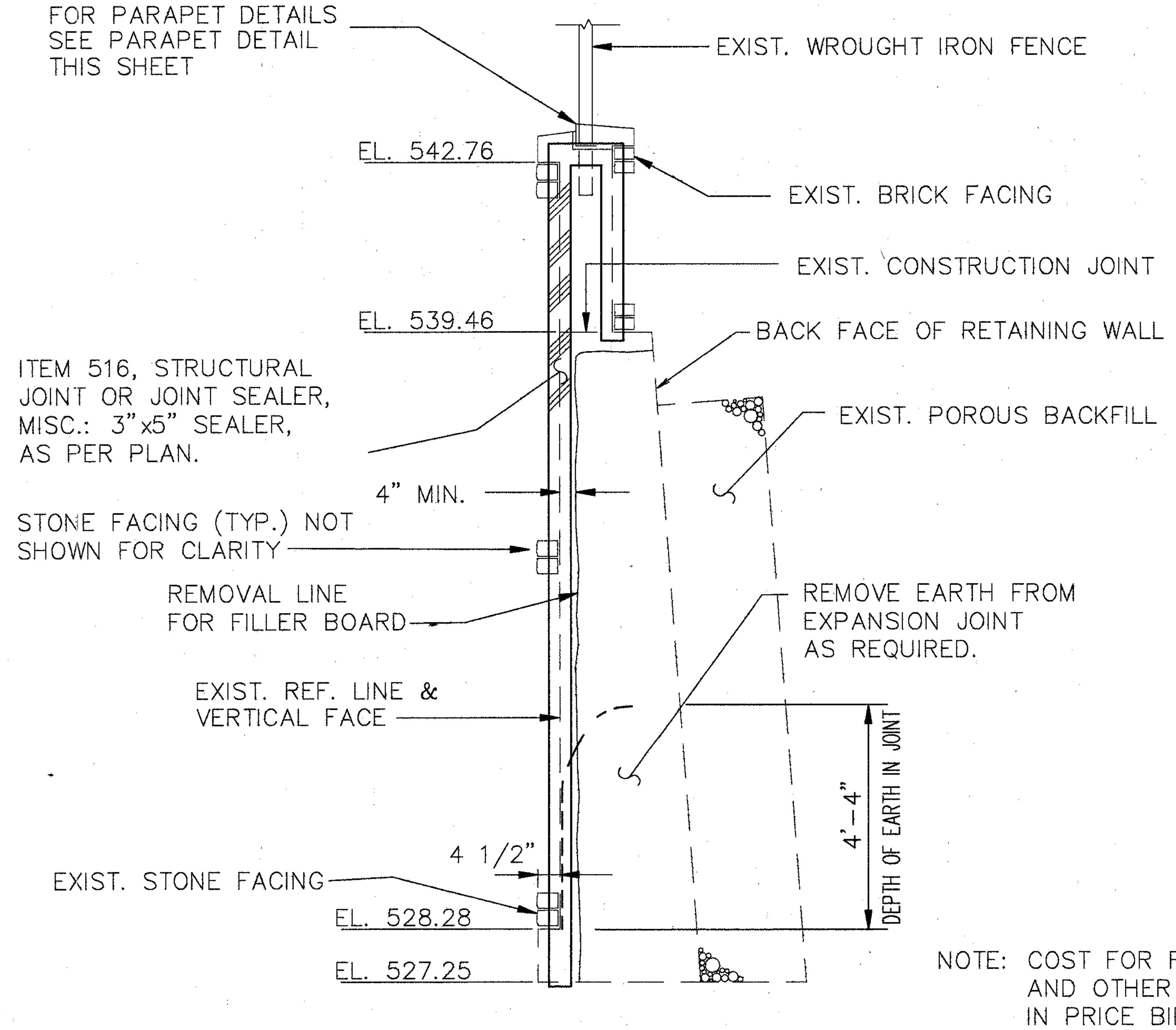
ELEVATION NORTHWEST EXP. JOINT

NTS



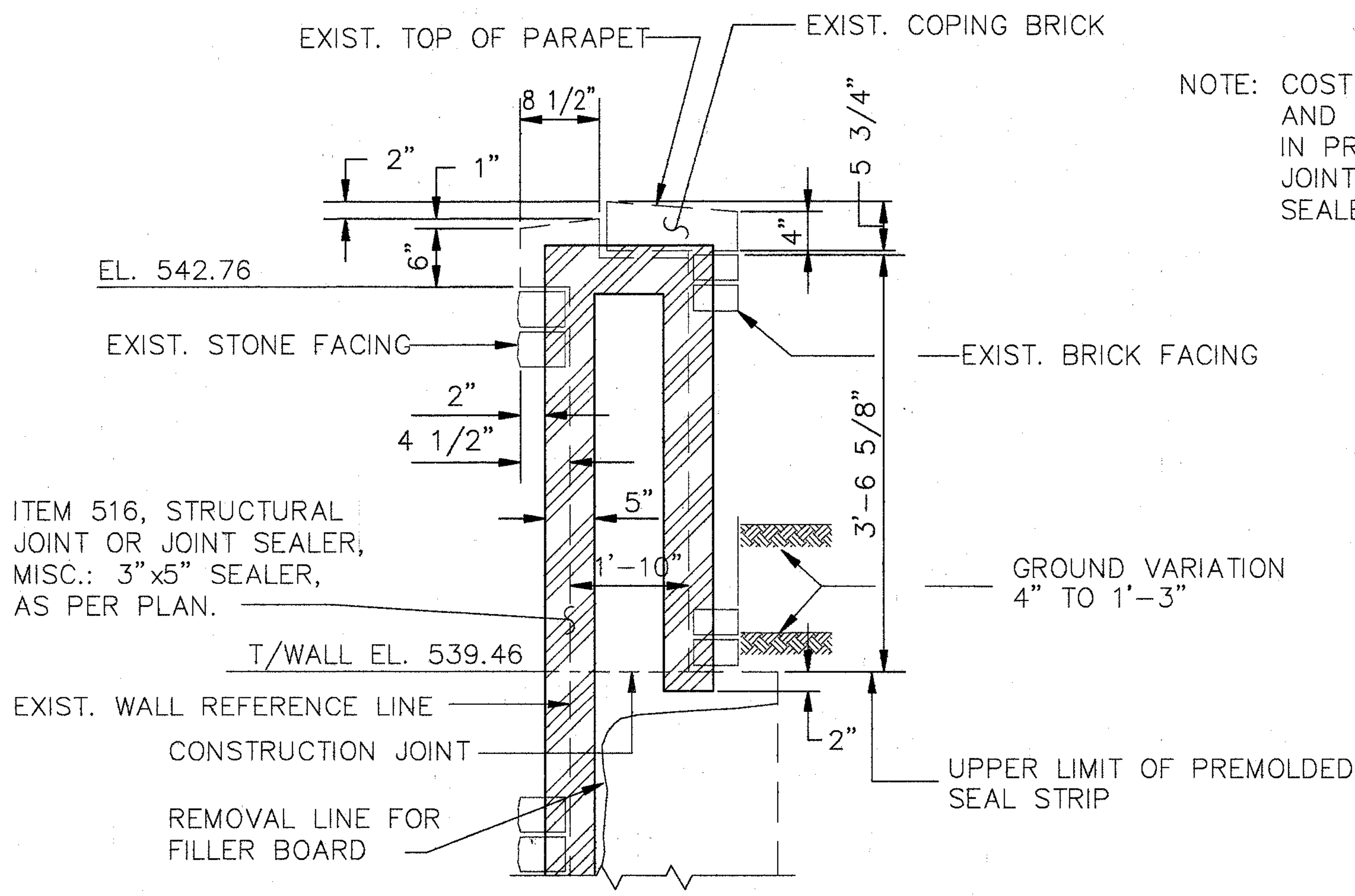
NOTE: COST FOR REMOVAL OF JOINT FILLER AND OTHER DEBRIS TO BE INCLUDED IN PRICE BID FOR ITEM 516, STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2"x4" SEALER, AS PER PLAN.

SECTION B-B



NOTE: COST FOR REMOVAL OF JOINT FILLER AND OTHER DEBRIS TO BE INCLUDED IN PRICE BID FOR ITEM 516, STRUCTURAL JOINT OR JOINT SEALER, MISC.: 3"x5" SEALER, AS PER PLAN.

SECTION A-A



PARAPET DETAIL

SOUTHEAST EXP. JT. ONLY

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2/3

EXPANSION JOINT DETAILS

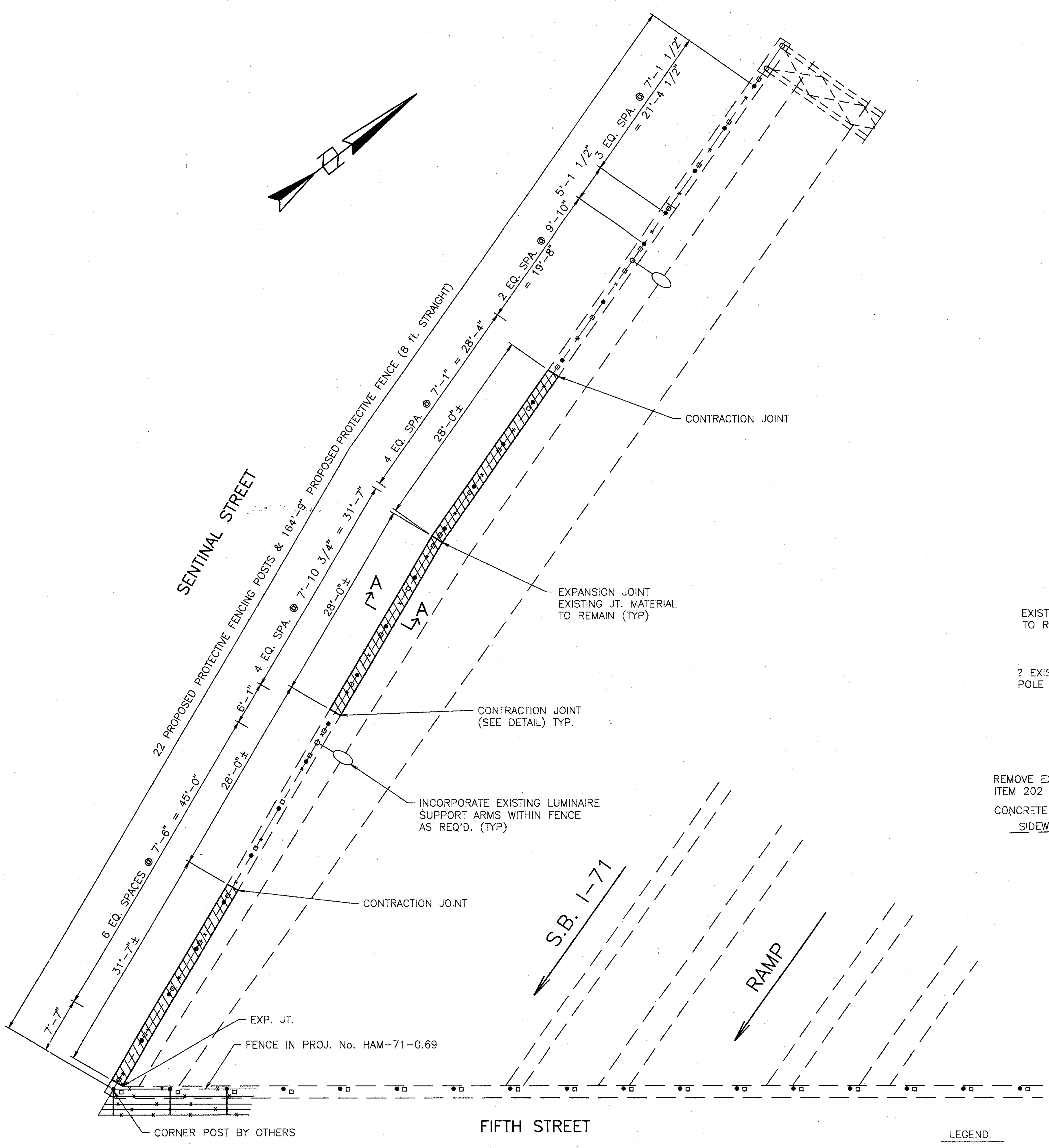
BRIDGE NO. HAM-71-0130
TUNNEL UNDER LYTLE PARK

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M 11/11/94	

Last Plot MAY 15, 1991 @ 5:26 PM
G:\STR\16596-03\ASHLAND\T-DETAIL Last Revision By: D.E.E. SEPT. 18, 1992 @ 9:43 AM

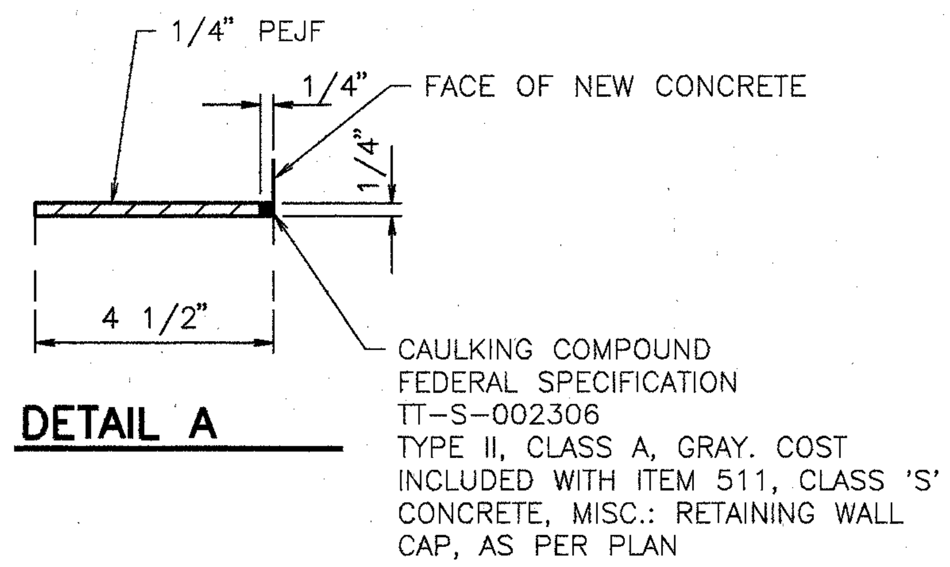
ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	L.S.	PORTIONS OF STRUCTURE REMOVED
509	15820	137	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
511	34450	4	C.Y.	CLASS S CONCRETE, MISC: RETAINING WALL CAP, AS PER PLAN
516	14600	30	L.F.	MISC. STRUCTURAL JOINT OR JOINT SEALER: 2"x4" SEALER, AS PER PLAN.
516	14600	21	L.F.	MISC. STRUCTURAL JOINT OR JOINT SEALER: 3"x5" SEALER, AS PER PLAN.
SPECIAL	60739910	165	L.F.	VANDAL PROTECTION FENCE, 8 FT. STRAIGHT, COATED FABRIC
SPECIAL	51911600	10	S.F.	PATCHING, MISC.: CERAMIC GLAZED WALL TILE



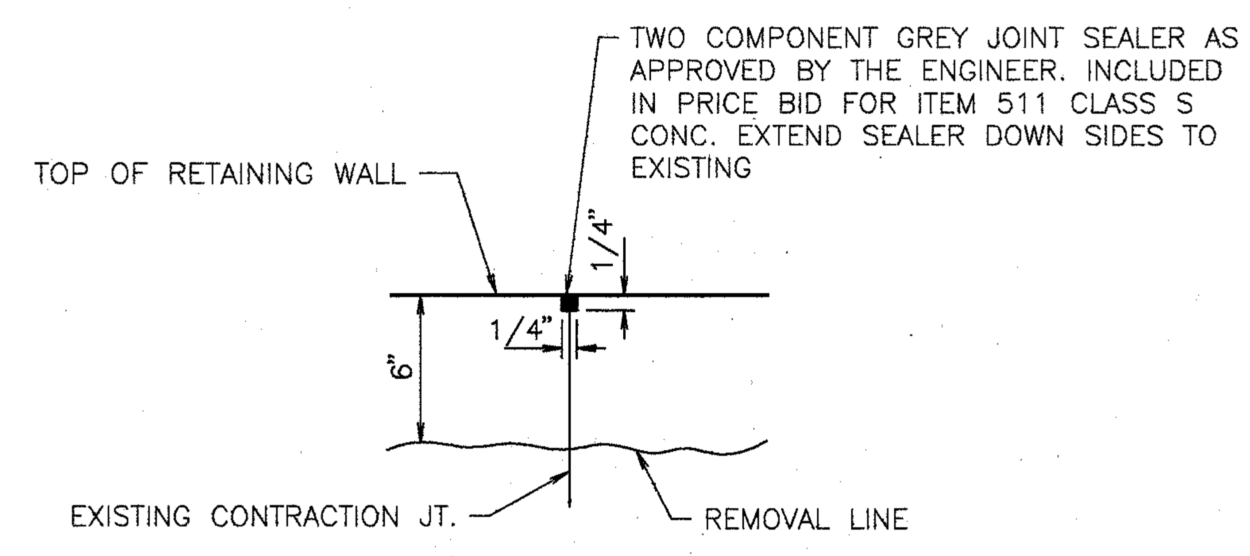
PLAN

LEGEND

▨ - INDICATES CONCRETE CAP TO BE REMOVED & REPLACED.

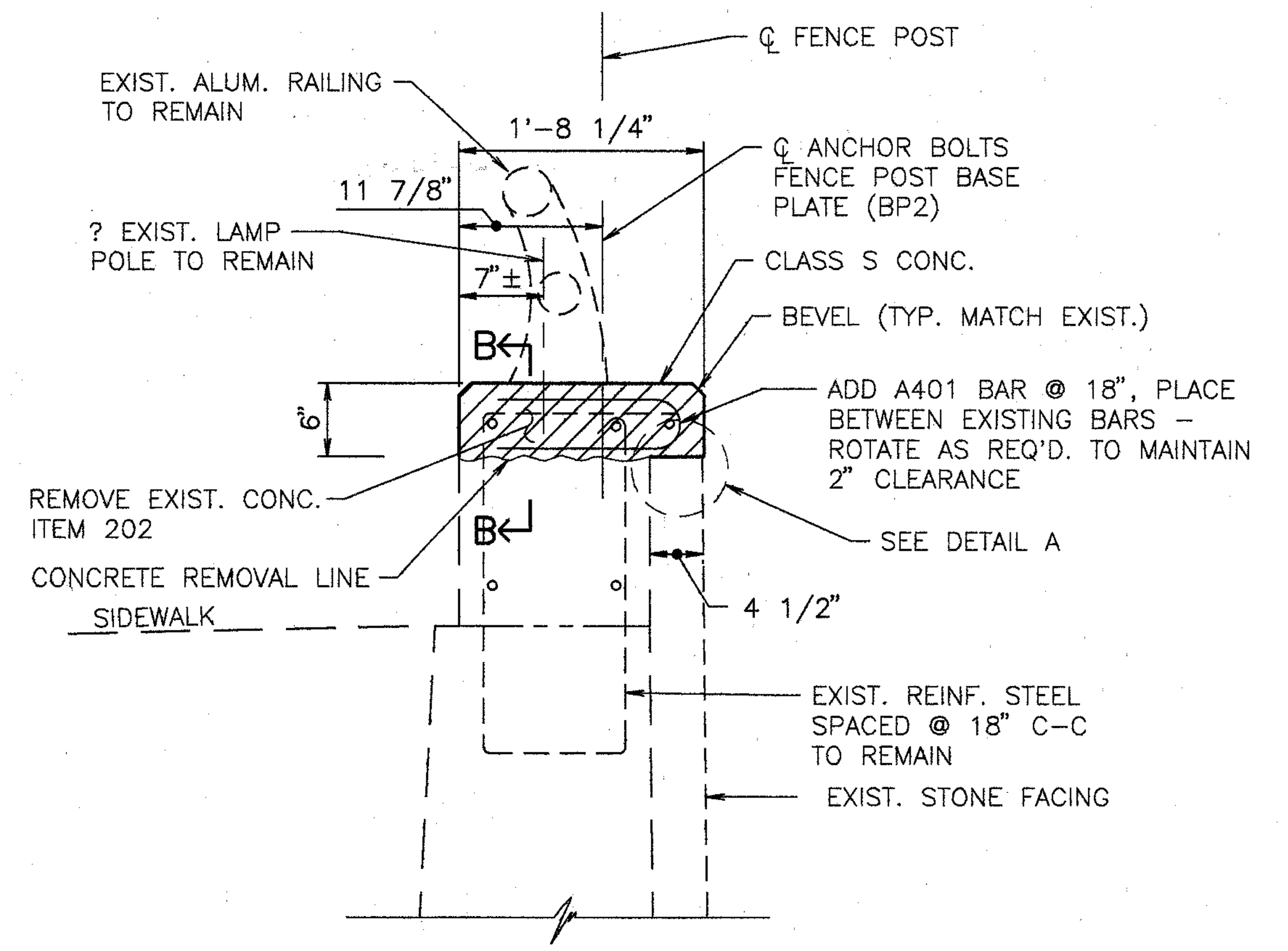


DETAIL A

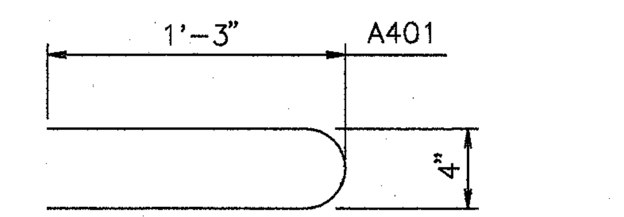


SECTION B-B

@ CONTRACTION JT. (SEE PLAN)



SECTION A-A



59 BARS, LENGTH = 2'-7?", WT. = 103#

NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO THE START OF CONSTRUCTION.
2. FOR FENCE DETAILS AND BASE PLATE DETAILS, SEE STD. DWG. VPF-1-90.
3. EXISTING BRIDGE RAILING IS AR-1-57 WITH TYPE C POSTS.
4. USE BP-2 BASE PLATE AND PS-3 POST SECTION.
5. CONTRACTOR SHALL PROVIDE TEMPORARY OUTRIGGERS WITH NETS, SHEETING OR OTHER MATERIAL AS APPROVED BY THE PROJECT ENGINEER TO PROTECT THE PUBLIC IN THE REMOVAL AND REPLACEMENT OF THE RETAINING WALL CAP. PRICE TO BE INCLUDED IN THE PRICE BID FOR ITEM 202.

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3/3

RETAINING WALL: FENCING & CONCRETE CAP REPAIR

BRIDGE NO. HAM-71-0130
TUNNEL UNDER LYTLE PARK

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
D.E.M.	D.E.E.		M.A.A.	D.E.M. 11/11/94	

Last Plot: MAY 15, 1991 @ 5:28 PM Last Revision By: D.E.E. APR. 12, 1994 @ 10:45 AM
G:\STR\16586-03\ASHLAND\T-011.2

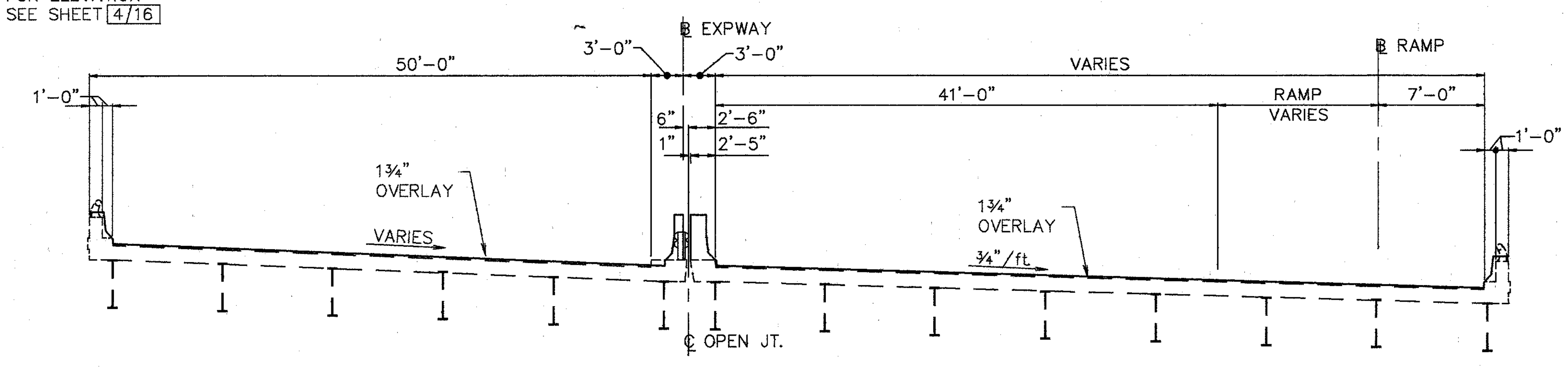
MODIFY BRIDGE RAILING, SEE SECT. A-A, TYPE A GENERAL DETAIL SHT. 273/401 FOR ELEVATION

SEE SHEET 4/16.

MODIFY BRIDGE RAILING, SEE SECTION A-A, TYPE A GENERAL DETAIL SHEET 273/401 FOR ELEVATION SEE SHEET 4/16

APPROACH SLAB WIDENING (SEE NOTE)			
LOCATION	LEFT	EXISTING	RIGHT
REAR LEFT	9'-0"	54'-0"±	5'-0"
REAR RIGHT	5'-0"	42'-0"±	9'-0"
RAMP	3'-0"	16'-0"±	7'-0"
FWD. LEFT	9'-0"	36'-0"±	7'-0"
FWD. RIGHT	5'-0"	45'-6"±	7'-0"

NOTE:
EXISTING APPROACH SLABS ARE TO BE REMOVED AND REPLACED FULL WIDTH (WIDENED) TO ACCOMODATE TRAFFIC ON THE SHOULDERS OF THE ROADWAY. VALUES LISTED IN THE 'LEFT' & 'RIGHT' COLUMNS ARE THE APPROX. WIDTHS OF THE APPROACH SLAB ADDITIONS. SEE SECT. Z-Z SHT. 12/16.



TYP. BRIDGE SECTION

NOTES:
1. SEAL PARAPETS, BACKWALLS, AND PIERS. SEAL THREE SIDES OF PIERS 3E, 6E AND 6W WITH EPOXY (LEAVE SIDE OF COLUMNS AWAY FROM TRAFFIC UNSEALED). SEAL ALL OF PIERS 1W, 2W, 4W, 5W, 7W, 8W, 9W, 1E, 2E, 4E, 5E, 7E, 8E, 1B AND 2B EXCEPT THE TOP OF THE PIER CAPS. WORK TO BE PAID FOR UNDER ITEM SPECIAL – 'SEALING OF CONCRETE SURFACE'.
2. FOR BARRIERS RETROFIT AT JUNCTION BOXES SEE JUNCTION BOX EXTENSION DETAIL, GENERAL DETAIL SHT. 273/401 SEE LIGHTING DETAILS FOR TYPE AND LOCATION.

LEGEND
DRAINAGE PIPING MODIFICATION

(A) – INDICATES TYPE A MODIFICATION AS SHOWN ON SHT. 15&16/16

(G) – INDICATES NO WORK REQUIRED.

FOR DRAINAGE PIPING REQUIREMENTS SEE GENERAL NOTE ON SHT. 273/401 & FOR DRAINAGE PIPING DETAILS AND APPROXIMATE NUMBER OF LINEAR FEET OF PIPE TO BE MODIFIED SEE SHT'S. 15&16/16

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL GIRDER WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: LENGTHS VARY
ROADWAY: N.B. VARIES 50'-0" MIN. F/F CURBS
S.B. VARIES 50'-0" MIN. F/F CURBS W/6'-0" MEDIAN
SKEW: NONE
LOADING FREQUENCY: C.F.=2000 (57) ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: VARIES, SEE PLAN
SUPERELEVATION: VARIES, SEE PLAN
CURB: 1'-0" EACH SIDE

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1/16

GENERAL PLAN

BRIDGE NO. HAM-71-0154
OVER S.B. I-471

HAMILTON COUNTY

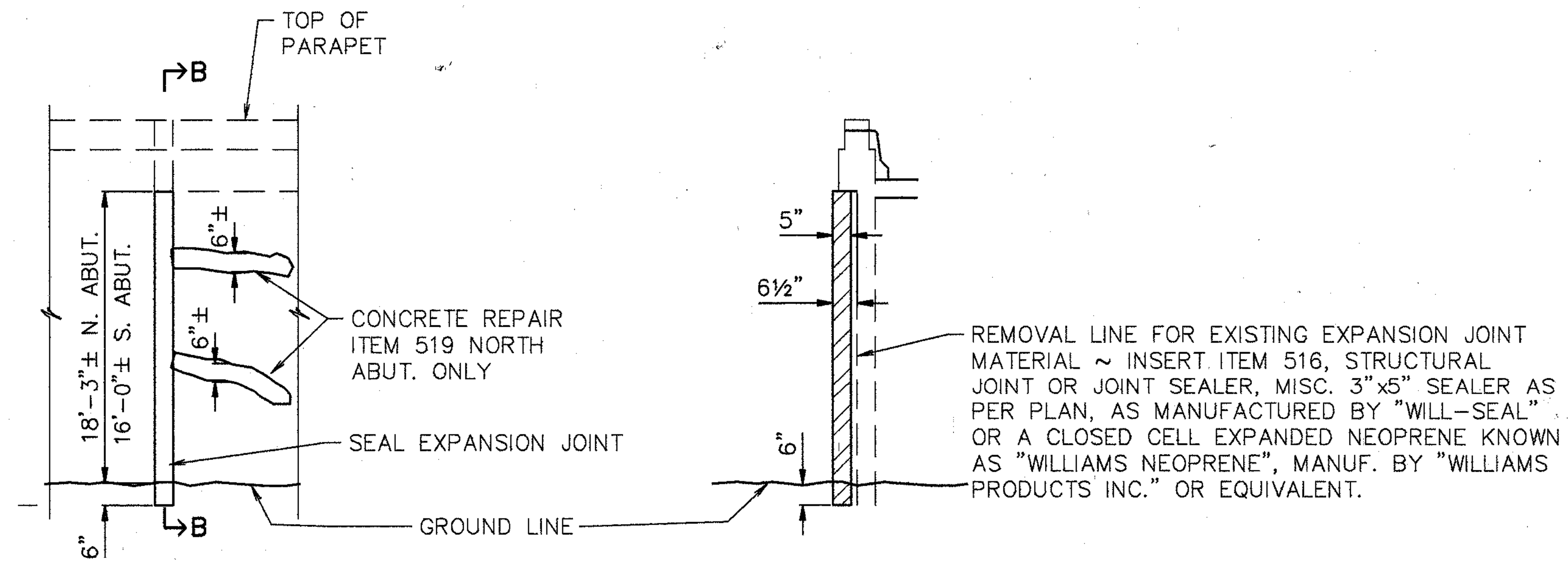
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	11/11/94	

Last Plot: MAY 21, 1991 @ 10:36 AM Last Revision By: RACH OCT. 1, 1992 @ 10:02 AM

TABLE OF SPAN LENGTHS *

N.B. ROADWAY		S.B. ROADWAY		RAMP B		N.B. & S.B. ROADWAY	
SPAN	LENGTH	SPAN	LENGTH	SPAN	LENGTH	SPAN	LENGTH
1E	100.4'	1W	122.3'	1B	83'	5E&W	126.3'
2E	125'	2W	137.5'	2B	128.5'	6E&W	70'
3E	86'	3W	91.5'	3B	125.9'	7E&W	108.4'
4E	108.7'	4W	69.3'			10E&W	75'
8E	139.1'	8W	141.1'				
9E	95'	9W	93'				

* MEASURED ALONG BASELINE



ELEVATION A-A

SECTION B-B

SEAL EXPANSION JOINT & PATCHING DETAIL

(NORTH ABUTMENT SHOWN ~ SOUTH ABUTMENT SIMILAR EXCEPT AS SHOWN)

FOR DRAINAGE PIPING MODIFICATION LEGEND AND NOTES SEE SHT. 1/16

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2/16

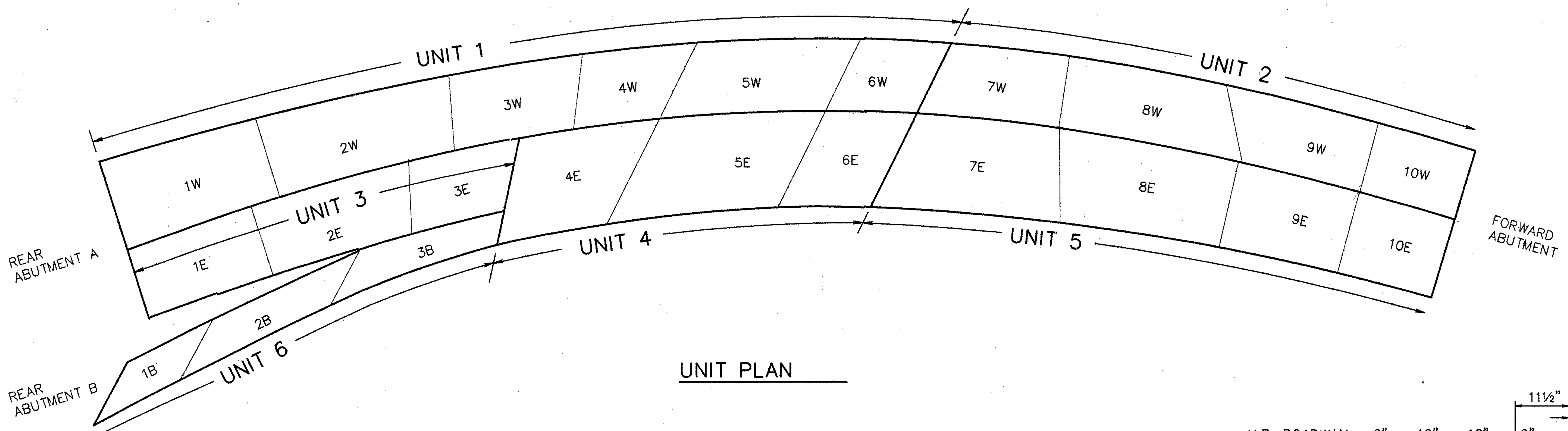
GENERAL PLAN

BRIDGE NO. HAM-71-0154
OVER S.B. 471

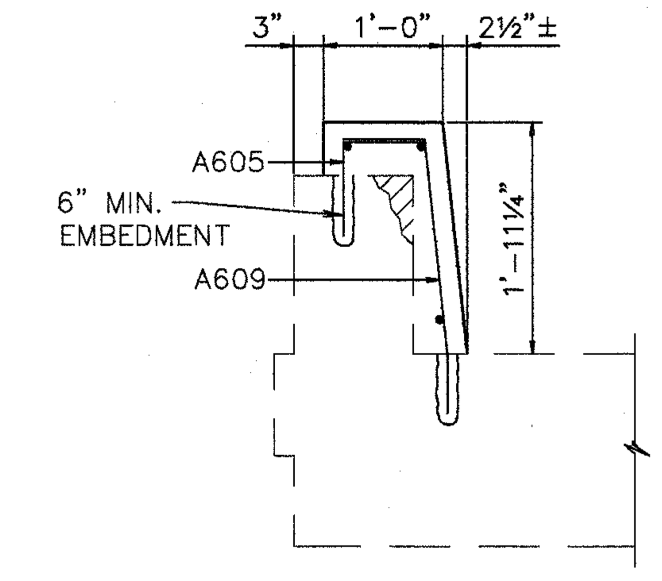
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 11/11/94	

Last Plot: MAY 21, 1991 @ 10:36 AM Last Revision By: RACH MAY 18, 1994 @ 4:28 PM

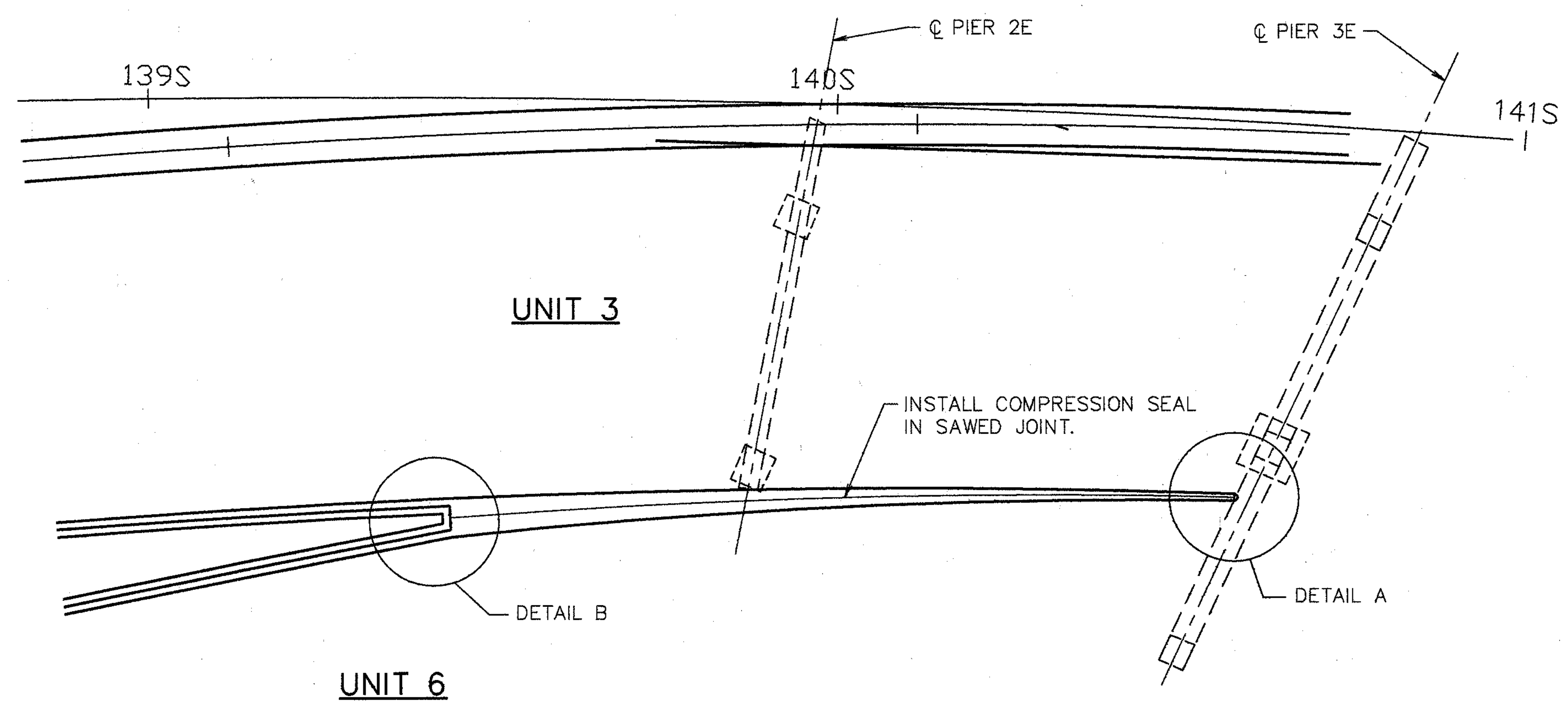


UNIT PLAN

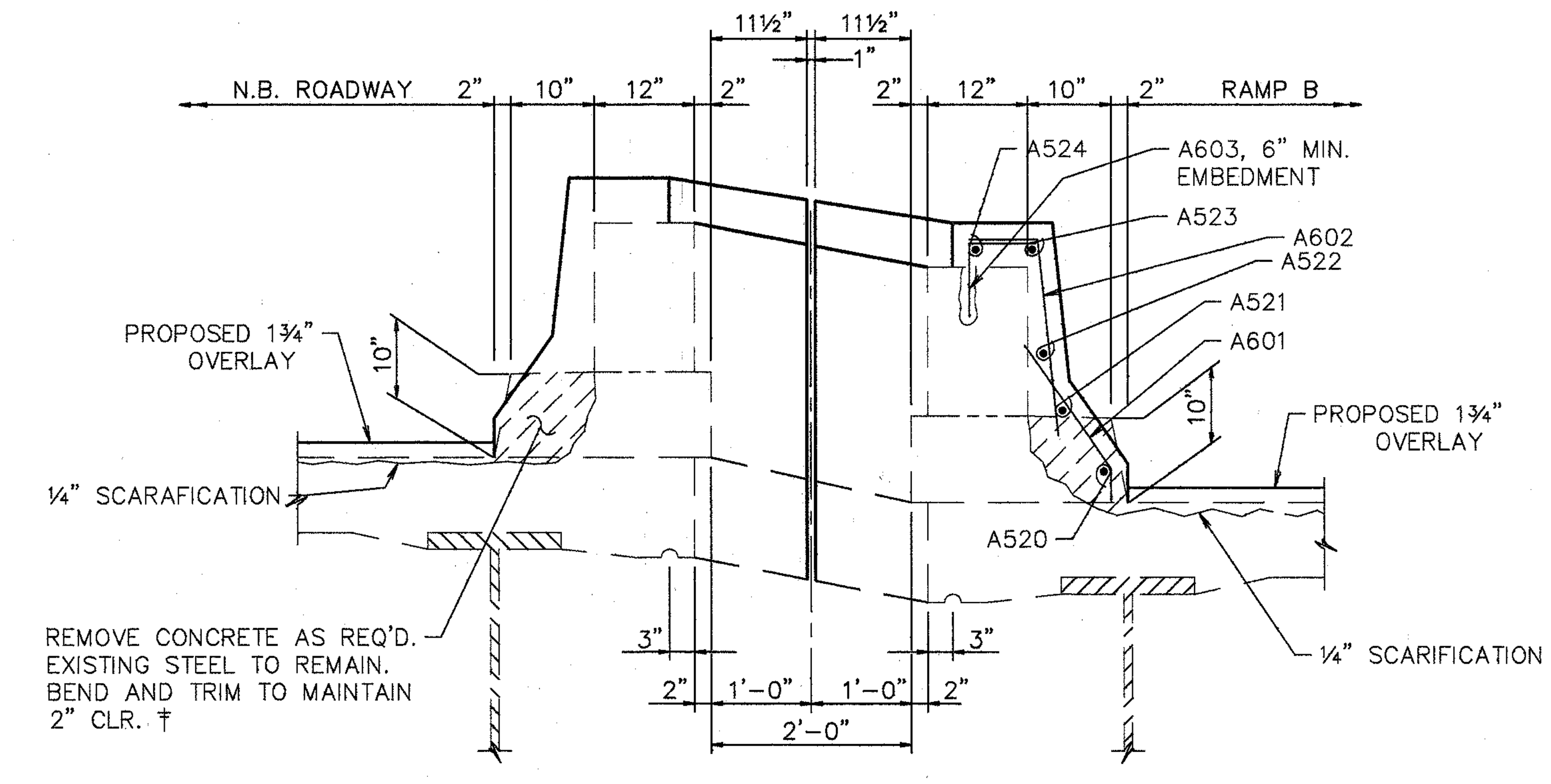


SECTION K-K

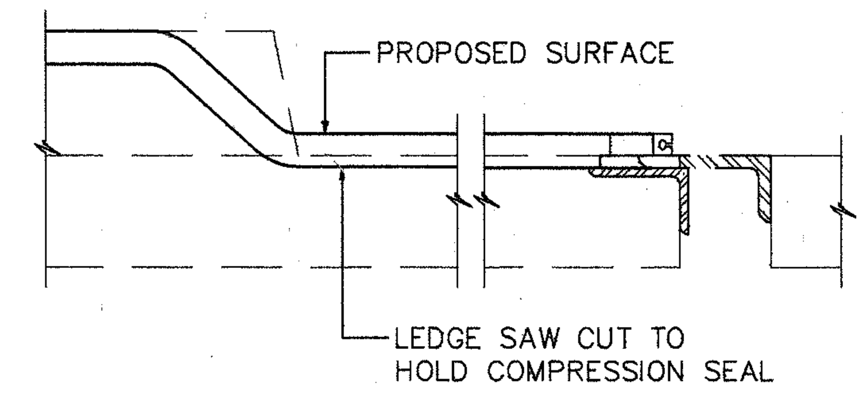
† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONCRETE REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION, SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.



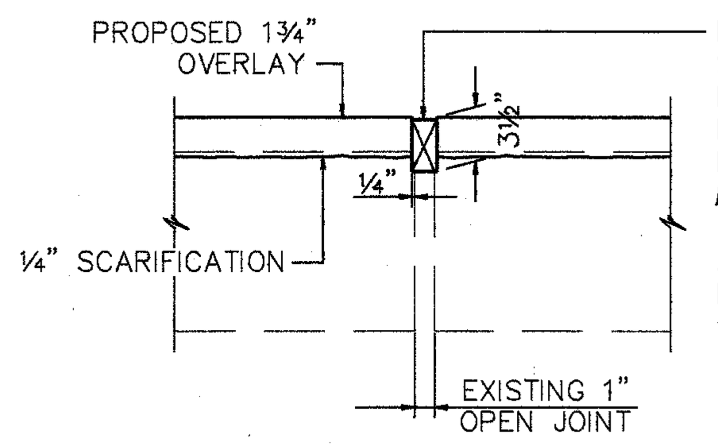
PART PLAN UNIT 3



SECTION L-L

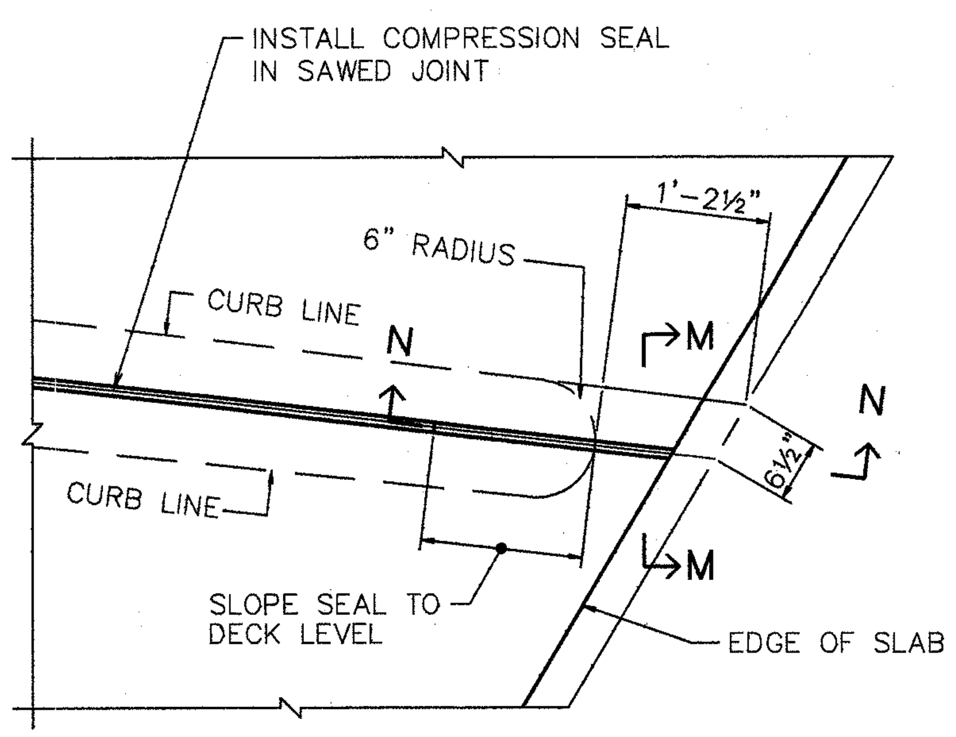


SECTION N-N

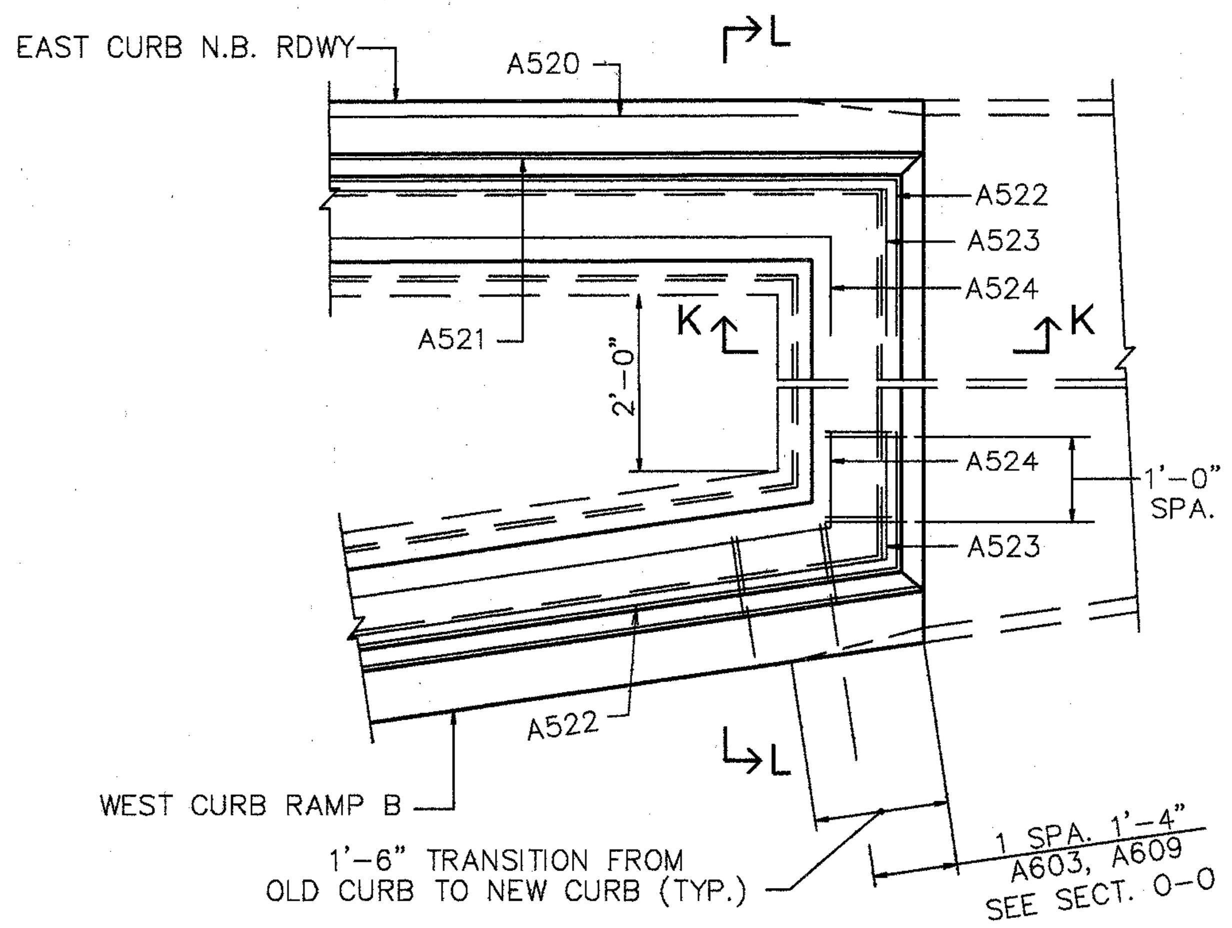


PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL, PLACED IN 1½"x 3½" SAWED GROOVE. PAYMENT BASED ON THE SEALED LENGTH OF JOINTS MEASURED HORIZONTALLY ALONG THE JOINT CENTER-LINES, SHALL BE PER LINEAR FOOT FOR ITEM 516-
ELASTOMERIC COMPRESSION SEAL, AS PER PLAN. COSTS FOR ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO COMPLETE THE JOINT IN PLACE SHALL BE INCLUDED IN THE PRICE BID FOR THE ITEM.

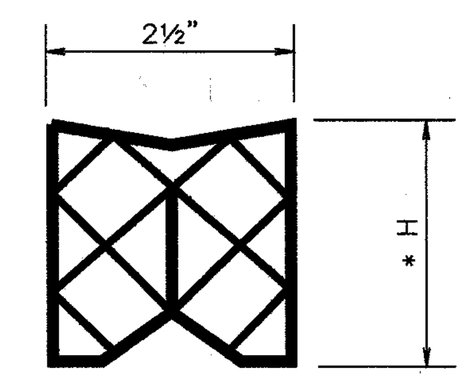
SECTION M-M



DETAIL A



DETAIL B



COMPRESSION SEAL DETAIL

NOTES

WATSON BOWMAN'S WJ-250, D.S. BROWN'S CV-2502, ELASTOMER SEALS, INC.'S SM-2500, OR AN APPROVED ALTERNATE.

PLACEMENT OF COMPRESSION SEAL SHALL BE ACCORDING TO SECTION 451.13 & SHALL MEET REQUIREMENTS OF 705.11.

* SEE MANUFACTURER'S CATALOG

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409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660

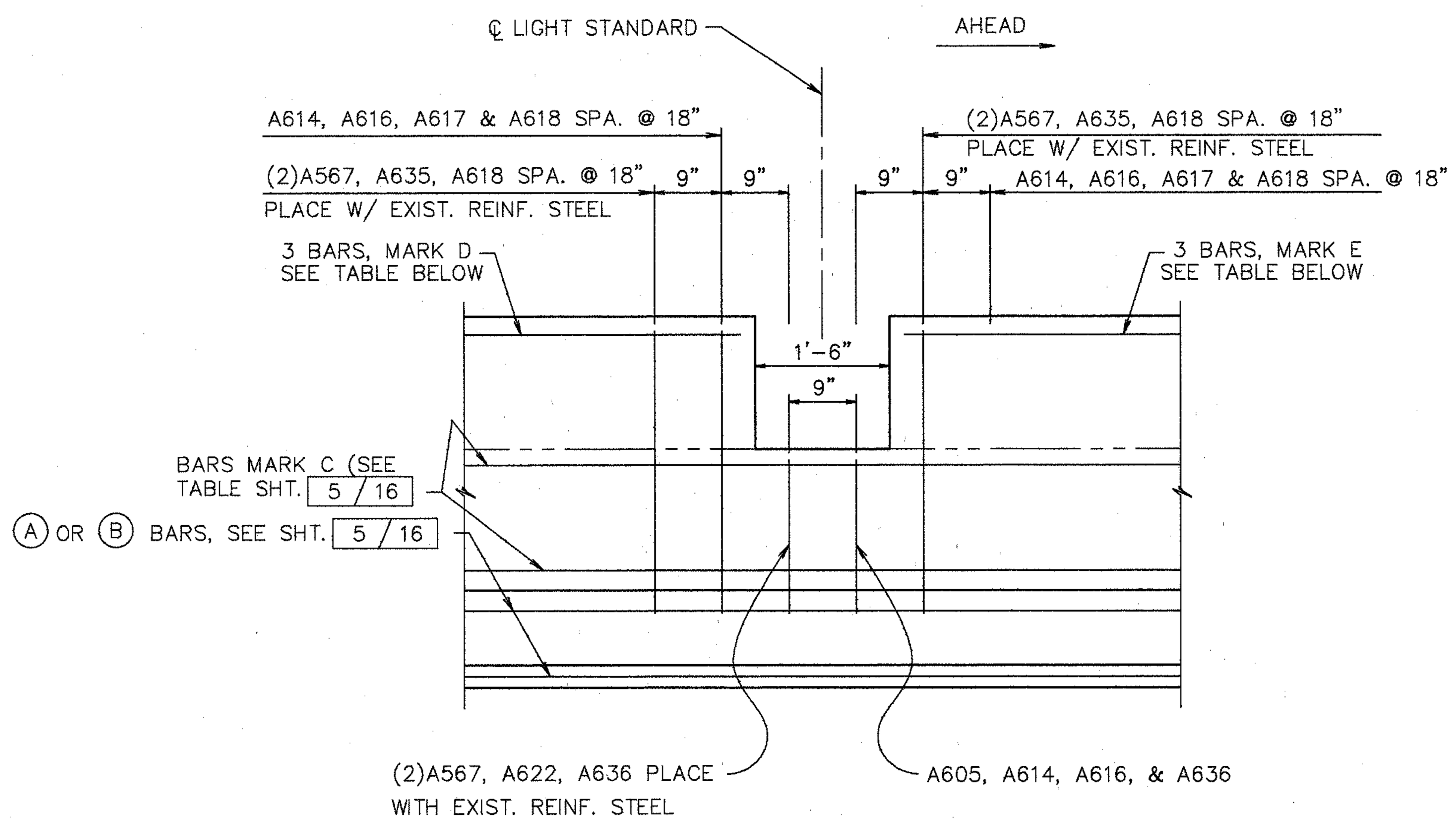
3/16

CURB SECTIONS

BRIDGE NO. HAM-71-0154
OVER S.B. 471

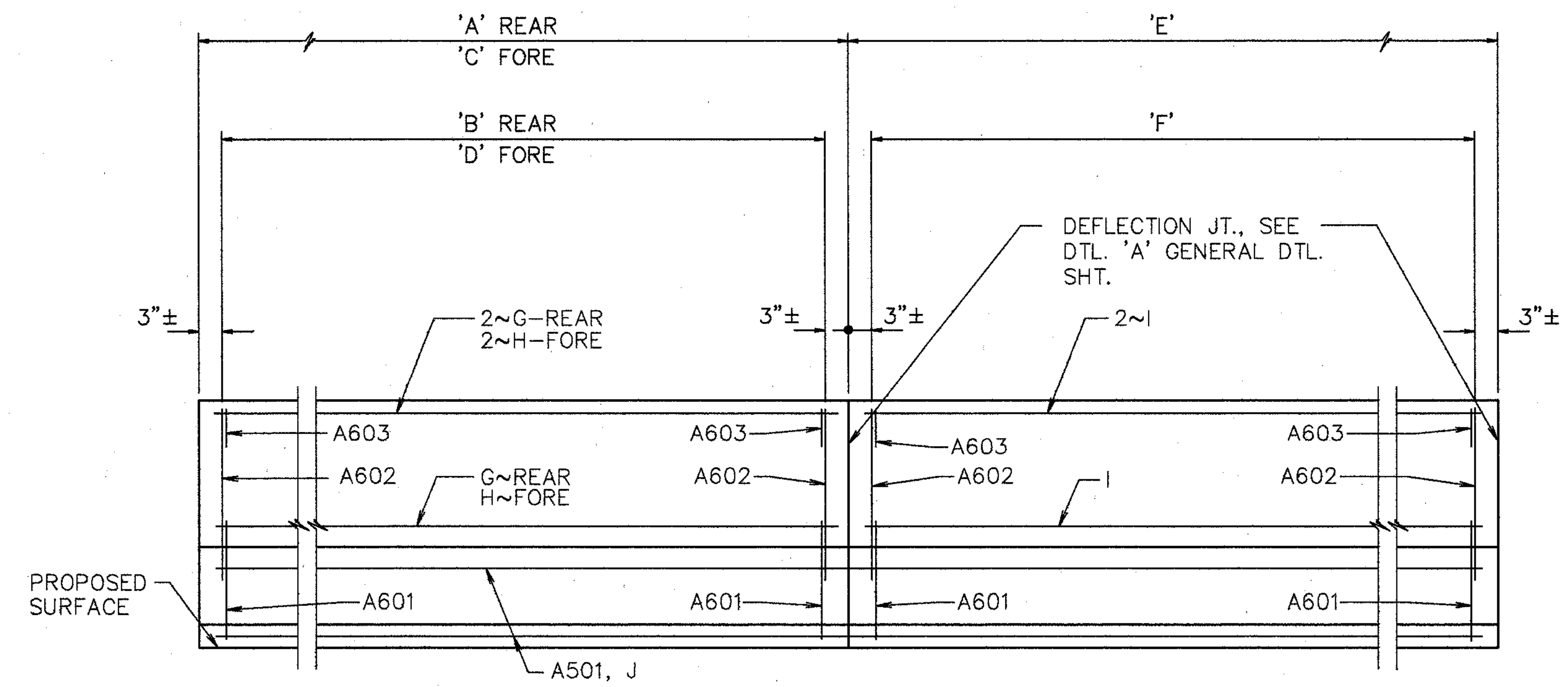
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 11/11/94	



ELEVATION SUPERSTRUCTURE PARAPET AT LIGHT STANDARD

STA. @ ℄ LAMP POST	PANEL TYPE	BAR MARK D	BAR MARK E
141+28	Q	A569	A570
143+56	D	A571	A572
145+84	Q	A573	A574
148+12	P	A575	A575



ELEVATION SUPERSTRUCTURE PARAPET

LOCATION	REAR A / B	FORE C / D	INT E / F	MARK G	MARK H	MARK I	MARK J
UNIT 1~LEFT WALL	15'-10½" 13 SPA. @ 1'-2¼"	14'-4⅞" 12 SPA. @ 1'-2"	37~17'-0" 14 SPA. @ 1'-2¼"	A505	A506	A504	A502
UNIT 2~LEFT WALL	14'-3¾" 12 SPA. @ 1'-1¾"	16'-0" 13 SPA. @ 1'-2¼"	22~17'-2" 14 SPA. @ 1'-2¼"	A506	A503	A507	A503
UNIT 3~RIGHT WALL	25'-2⅞" 20 SPA. @ 1'-2¾"	15'-6" 13 SPA. @ 1'-1¾"	7~18'-0" 15 SPA. @ 1'-2"	A526	A524 FF A523 NF A522 NF LOW	A525	A520
UNIT 4~RIGHT WALL	14'-5⅝" 12 SPA. @ 1'-2"	14'-5⅝" 12 SPA. @ 1'-2"	15~17'-3" 14 SPA. @ 1'-2½"	A506	A506	A507	A509
UNIT 5~RIGHT WALL	14'-6⅜" 12 SPA. @ 1'-2"	16'-2⅝" 13 SPA. @ 1'-2½"	23~17'-5½" 14 SPA. @ 1'-2½"	A506	A503	A514	A510
UNIT 6~RIGHT RAMP WALL	23'-0" 19 SPA. @ 1'-2¼"	23'-3" 19 SPA. @ 1'-2½"	17~17'-7" 14 SPA. @ 1'-2¾"	A512	A513	A511	A508
UNIT 6~LEFT RAMP WALL	27'-2" 22 SPA. @ 1'-2½"	15'-5¾" 13 SPA. @ 1'-1¾"	9~17'-9" 14 SPA. @ 1'-2¾"	A512 FF A519 NF A519 NF LOW	A524 FF A523 NF A522 NF LOW	A511	A509

NOTES:

- RF DENOTES RIGHT FORWARD
- LF DENOTES LEFT FORWARD
- RR DENOTES RIGHT REAR
- LR DENOTES LEFT REAR
- NF DENOTES NEAR FACE
- FF DENOTES FAR FACE
- RM DENOTES REAR MEDIAN
- FM DENOTES FORWARD MEDIAN
- R DENOTES RIGHT SIDE
- L DENOTES LEFT SIDE
- M DENOTES MEDIAN

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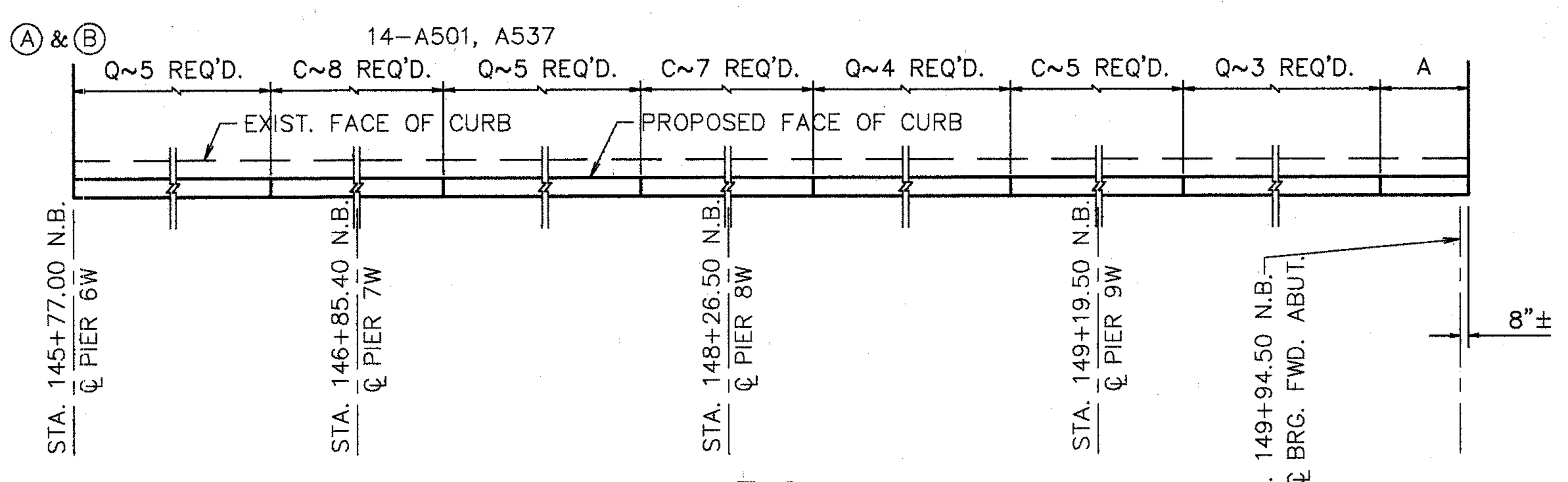
PARAPET ELEVATIONS AND CURB SECTIONS

BRIDGE NO. HAM-71-0154
OVER S.B. 471

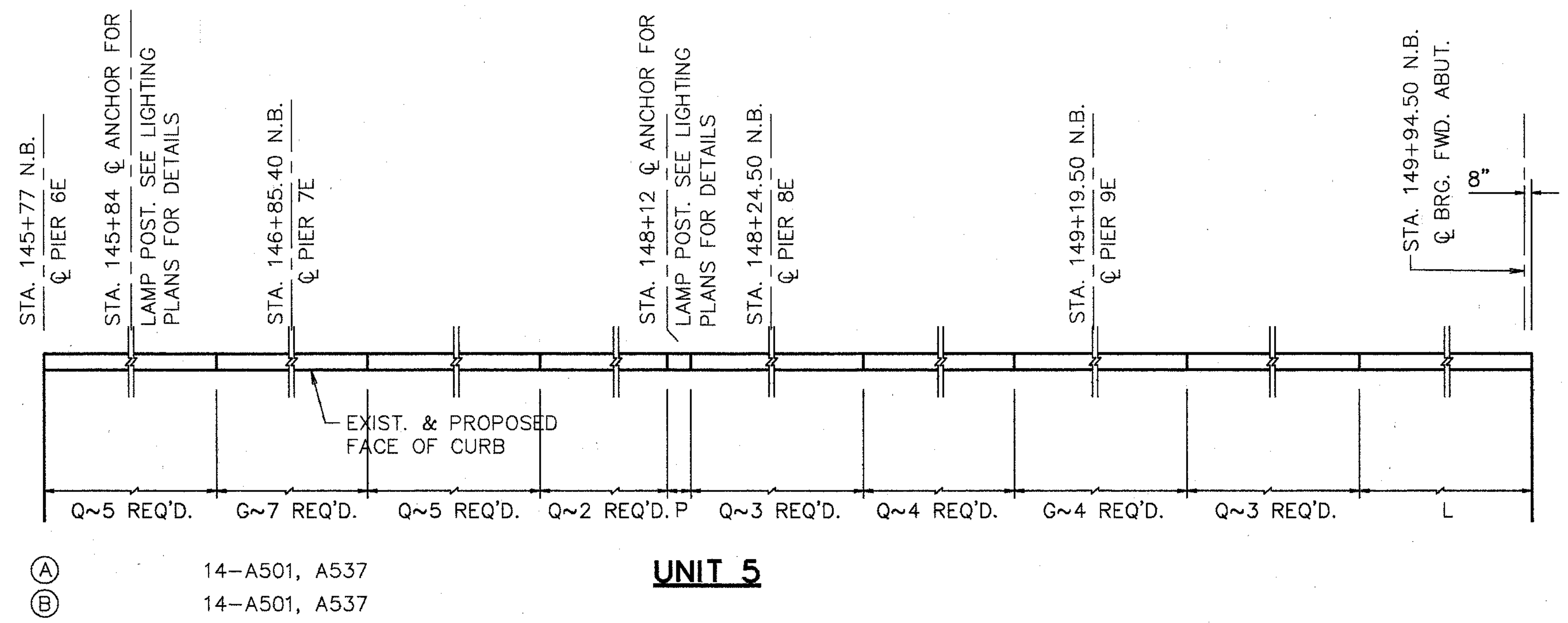
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	1/11/94	

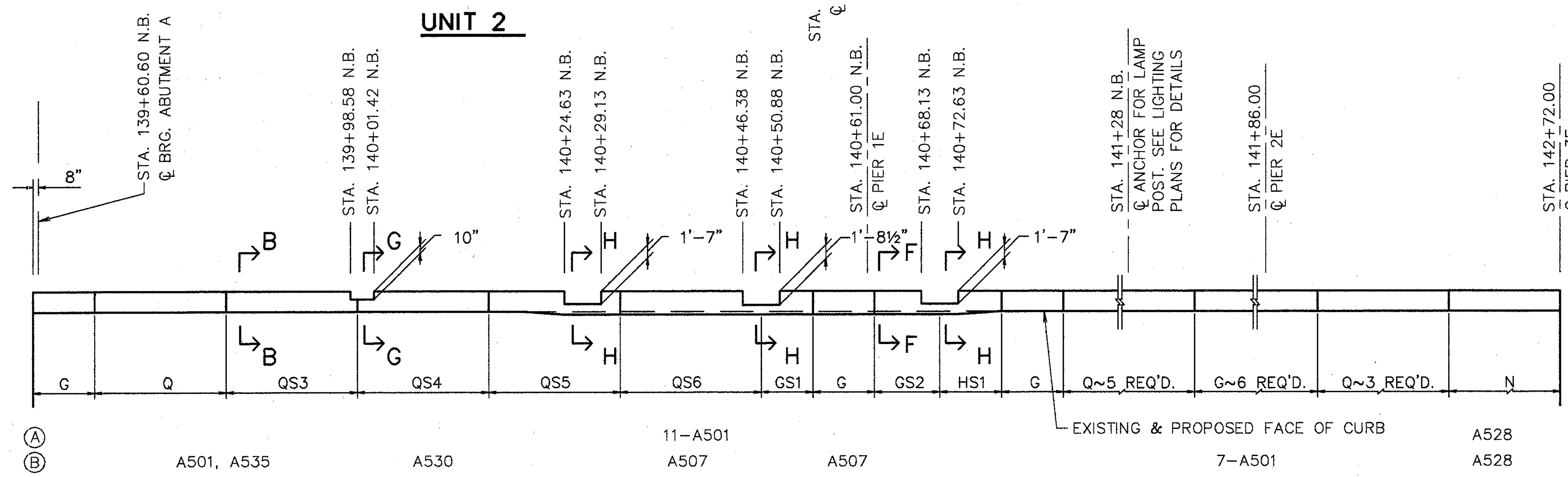
UNIT 1



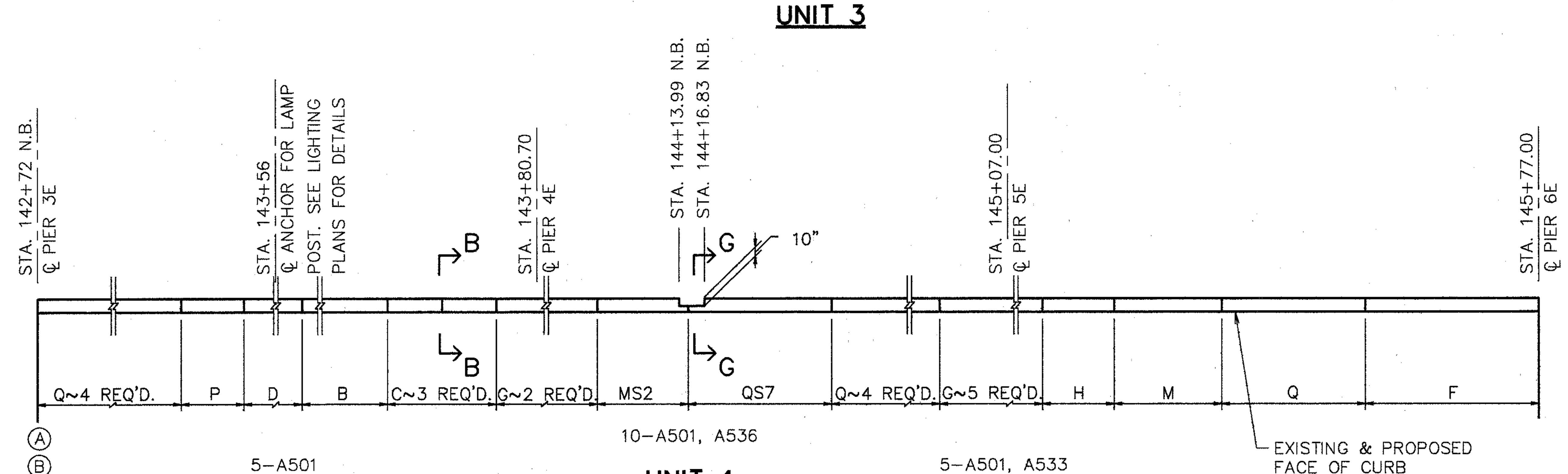
UNIT 2



UNIT 5



UNIT 3



UNIT 4

MEDIAN PARAPET PANEL & TYPES

TYPE	LENGTH	#6 SPACING	MARK C
A	5'-6¼"	5 SPA. @ 1'-0"	A538
B	5'-9"	5 SPA. @ 1'-1"	A539
C	7'-0"	6 SPA. @ 1'-1"	A540
* D	10'-3"	7 SPA. @ 1'-6"	A545
E	7'-3½"±	6 SPA. @ 1'-1¾"	A541
F	8'-6"	8 SPA. @ 1'-0"	A527
G	7'-6"	6 SPA. @ 1'-2"	A542
H	8'-0"	7 SPA. @ 1'-1"	A543
J	8'-7½"	7 SPA. @ 1'-2"	A544
K	13'-1"	10 SPA. @ 1'-3"	A568
L	11'-2"	9 SPA. @ 1'-2¼"	A546
M	12'-0"	10 SPA. @ 1'-2"	A547
N	13'-7"	11 SPA. @ 1'-2¼"	A548
* P	15'-0"	10 SPA. @ 1'-6"	A549
* Q	16'-0"	13 SPA. @ 1'-2¼"	A503

* FOR PANEL WITH LIGHT STANDARD, SEE SECTION ON SHT. 11/16 AND FOR ELEVATION SEE SHT. 4/16

NOTES:

1. BARS (A) AND (B) ARE LOCATED IN THE CONTINUOUS PORTION OF THE PARAPET BELOW THE CONSTRUCTION JOINT. USUALLY (C) BARS ARE ABOVE THE CONSTRUCTION JOINT BETWEEN DEFLECTION JOINTS. FOR FURTHER CLARIFICATION, REFER TO SECTION B-B AND SECTION F-F ON SHT. 11/16.

2. TRANSITIONAL SECTIONS ARE DESIGNED AS SPECIAL AND THEIR DETAILS CAN BE FOUND ON SHT. 6/16. THE FOLLOWING IS AN EXAMPLE OF THE DESIGNATION CODING: FOR MS1, THE PARAPET TYPE IS 'M', 'S' MEANS IT IS A SPECIAL SECTION AND THAT A DETAIL IS PROVIDED AS MENTIONED ABOVE, AND '1' SEPARATES IT FROM ANOTHER SPECIAL PARAPET OF TYPE 'M' (SAY MS2).

3. ALL MEDIAN WORK SHALL BE INCLUDED IN ITEM 511-'CLASS S CONCRETE, SUPERSTRUCTURE(MISC. *CONC. PARAPET RAILING,* AS PER PLAN. COST TO REMOVE CURB INCLUDED IN THE LUMP-SUM PRICE BID FOR ITEM 202-'PORTIONS OF STRUCTURES REMOVED'. ALL NEW STEEL IS INCLUDED IN ITEM 509.

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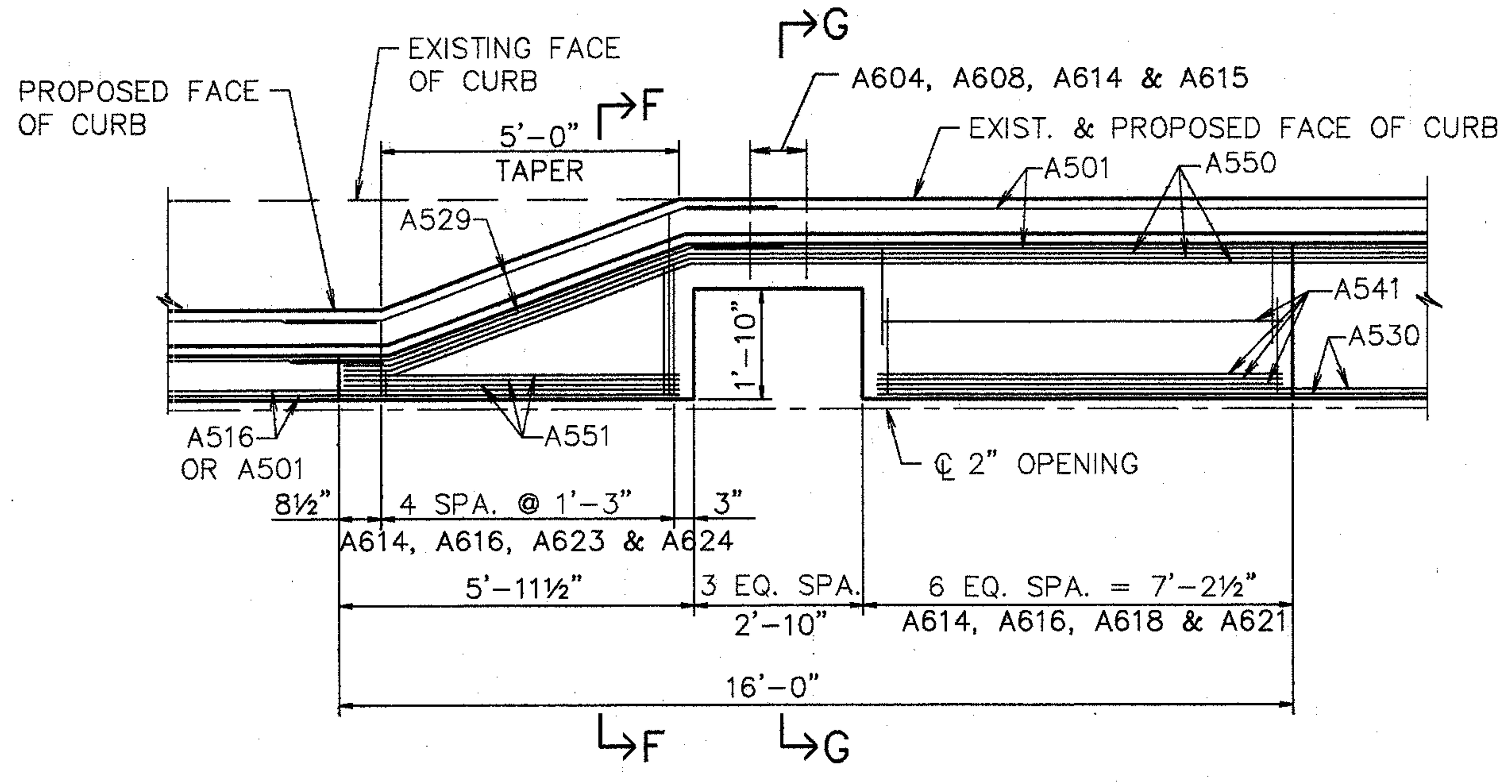
5/16

MEDIAN DETAILS PLAN VIEWS

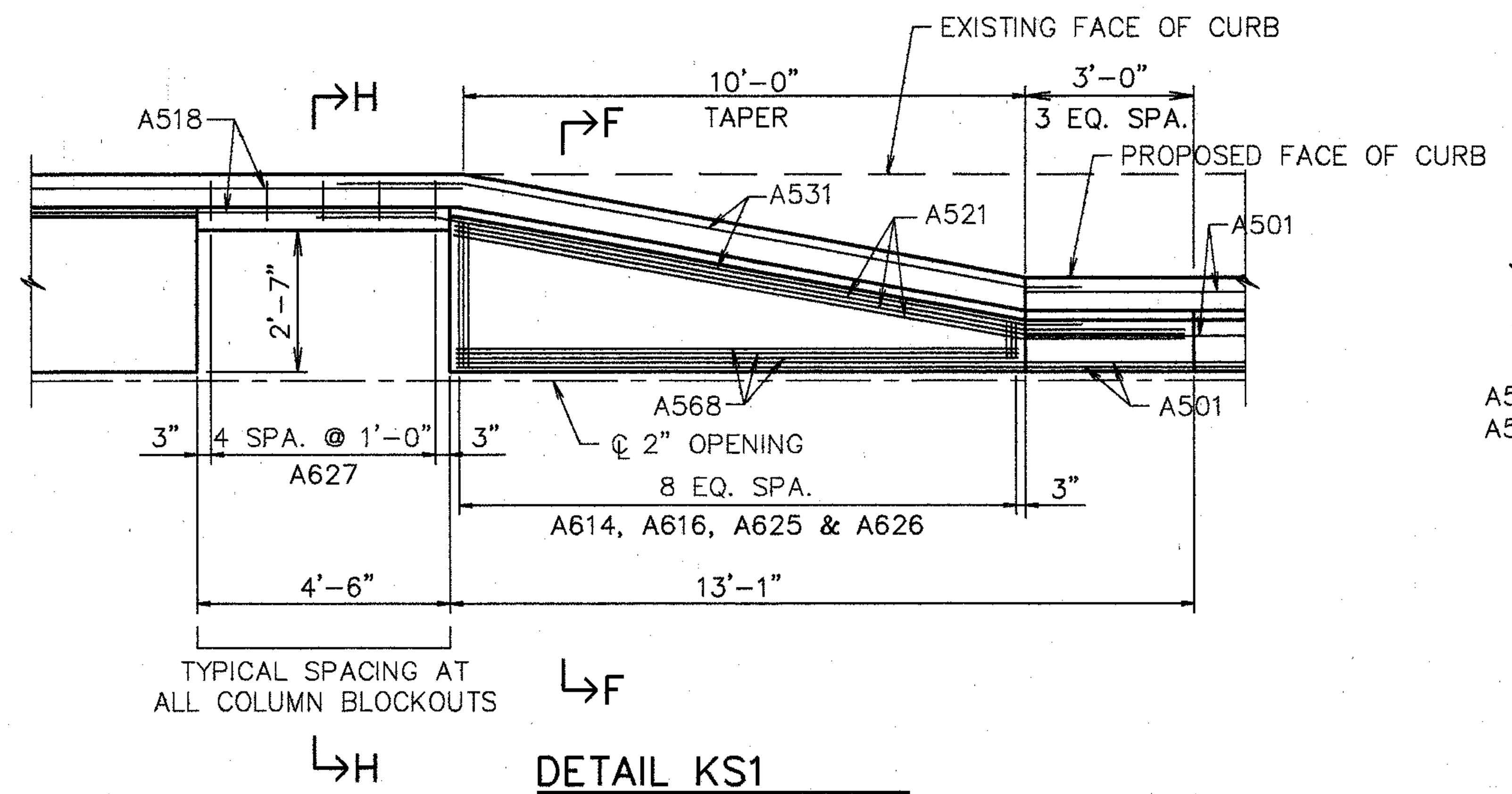
BRIDGE NO. HAM-71-0154
OVER S.B. 471

HAMILTON COUNTY

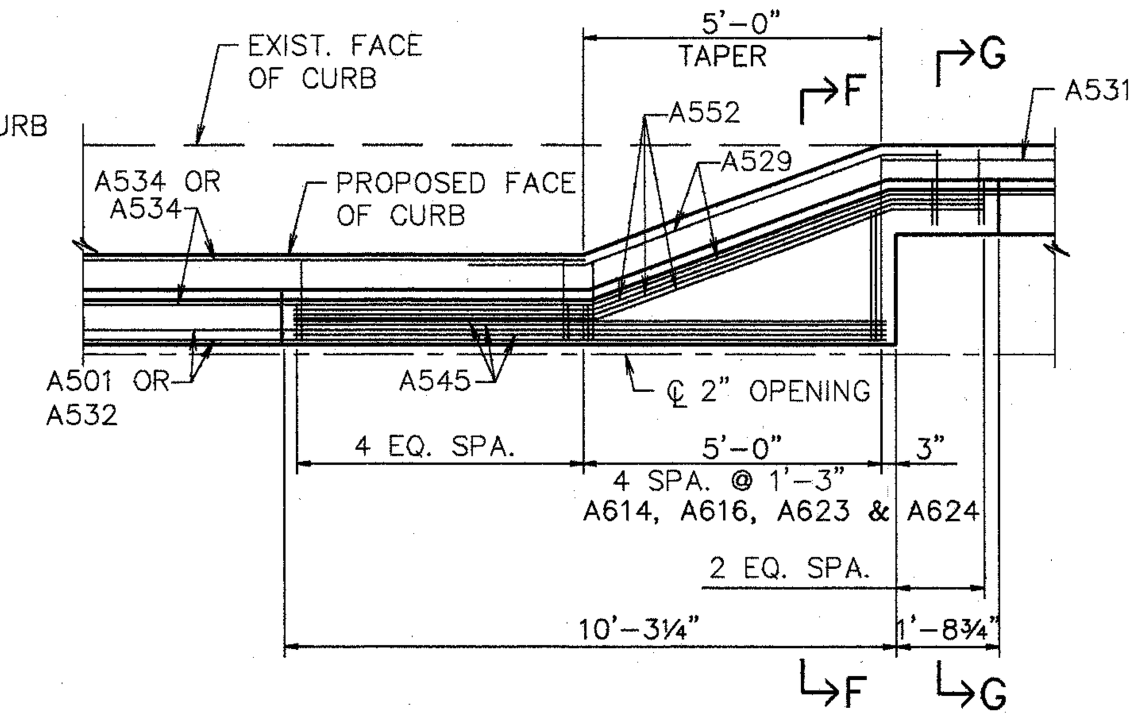
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 11/11/94	



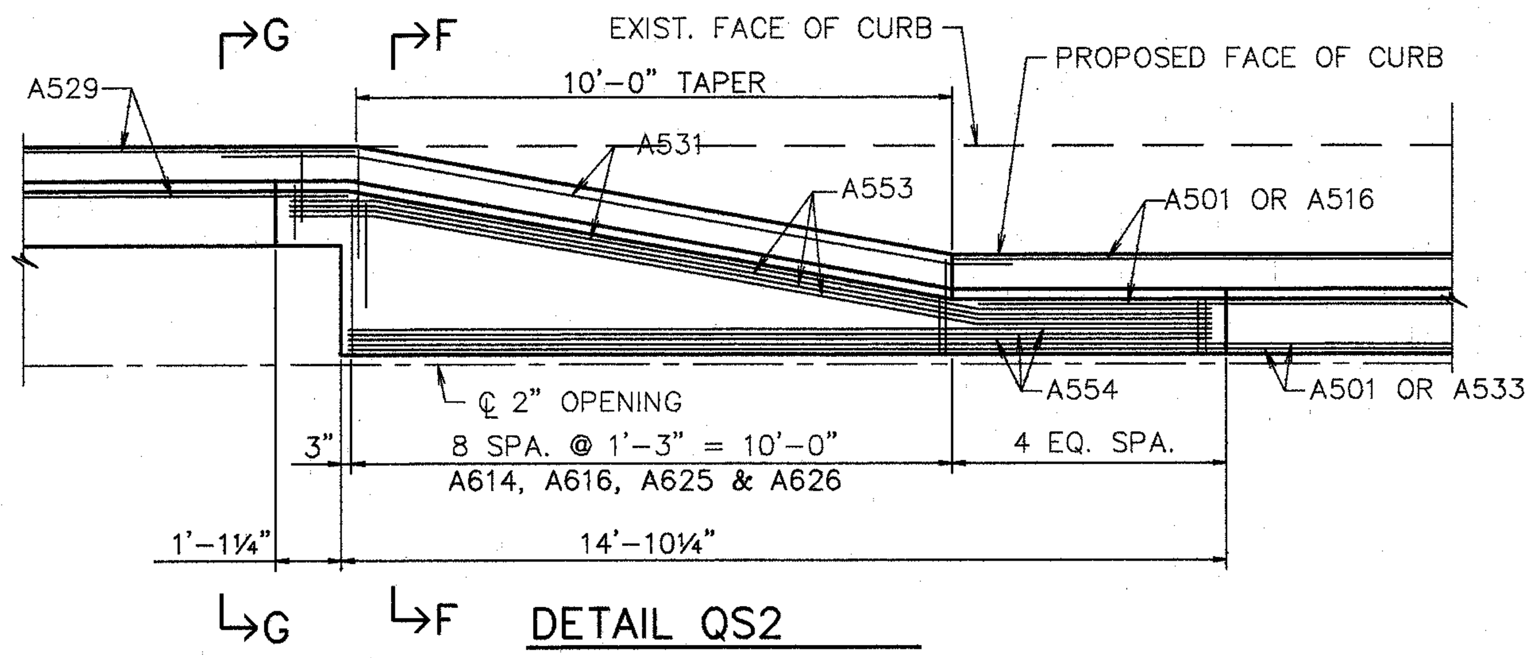
DETAIL QS1



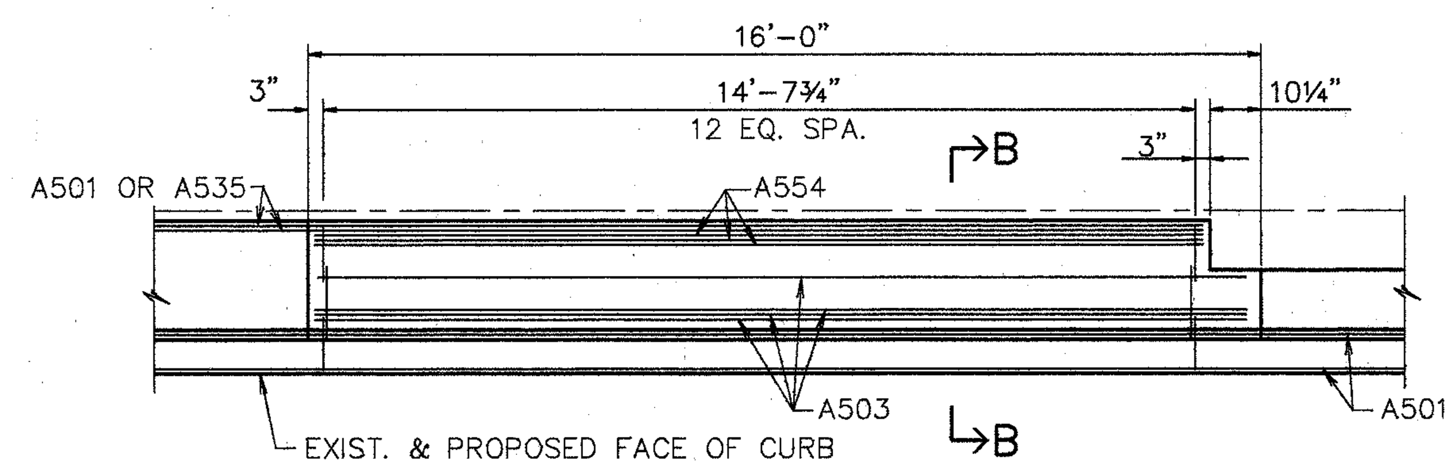
DETAIL KS1



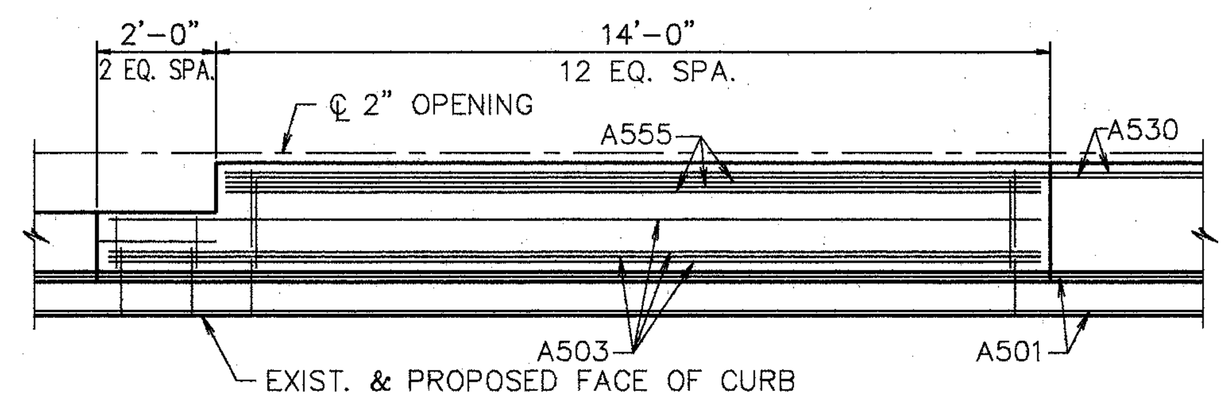
DETAIL MS1



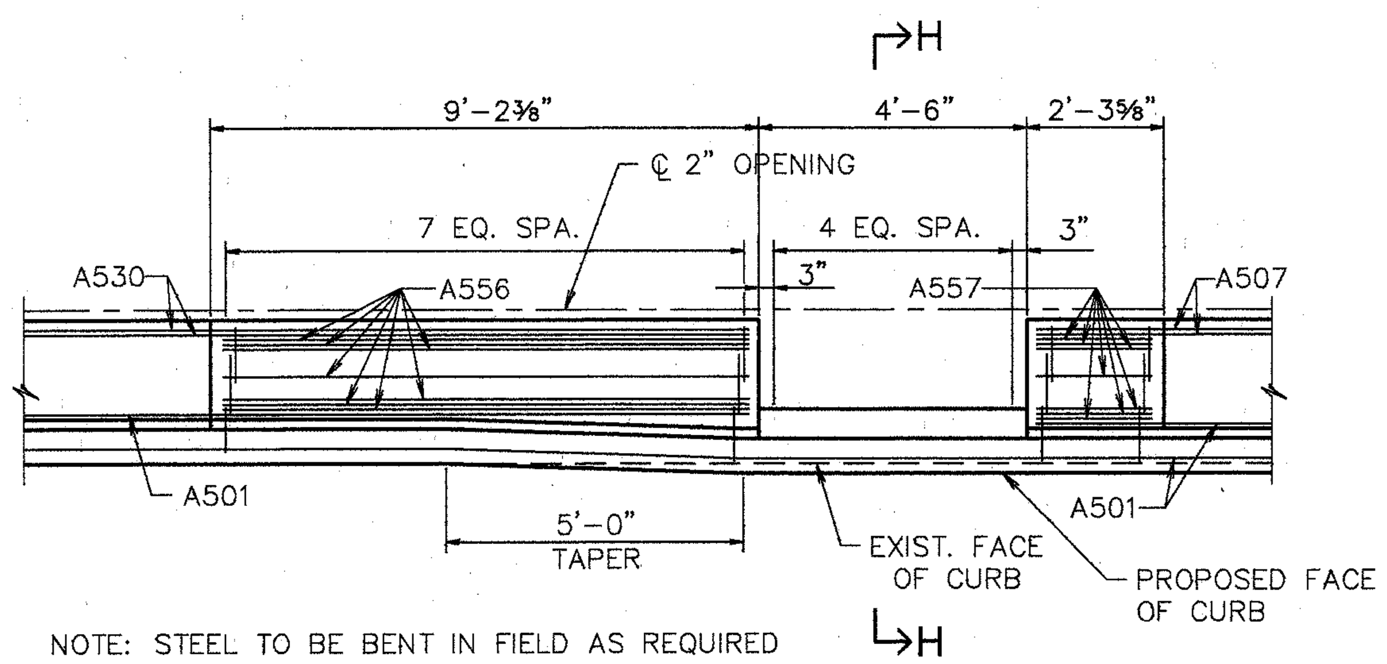
DETAIL QS2



DETAIL QS3

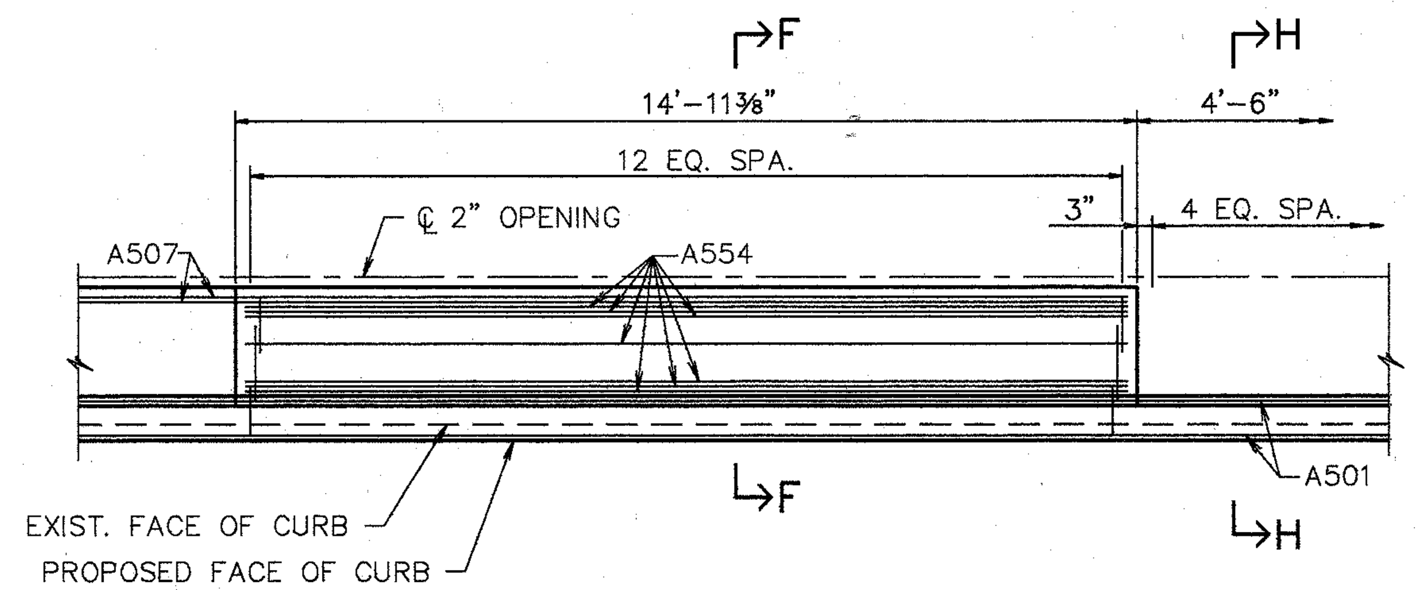


DETAIL QS4

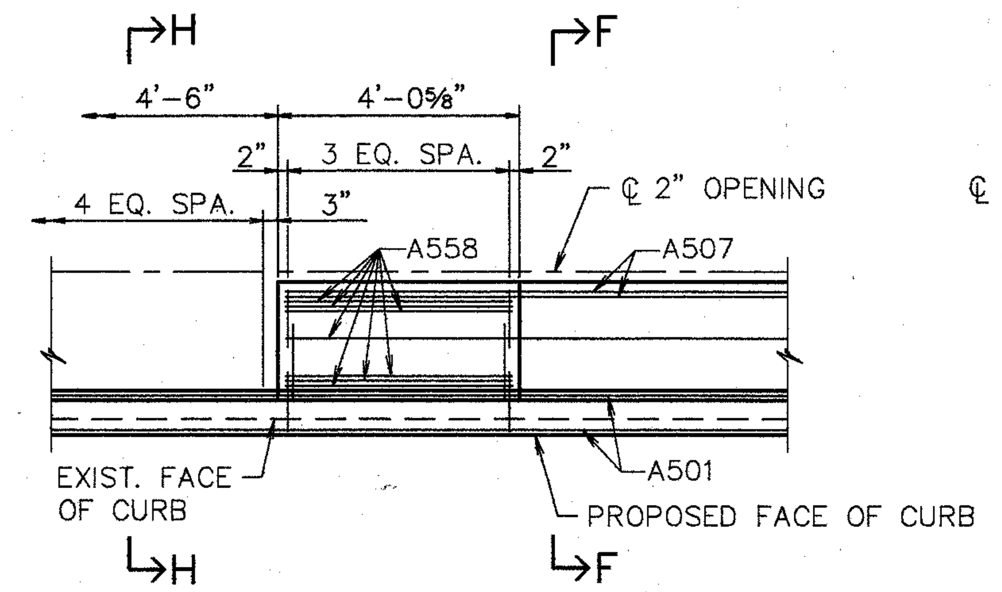


NOTE: STEEL TO BE BENT IN FIELD AS REQUIRED

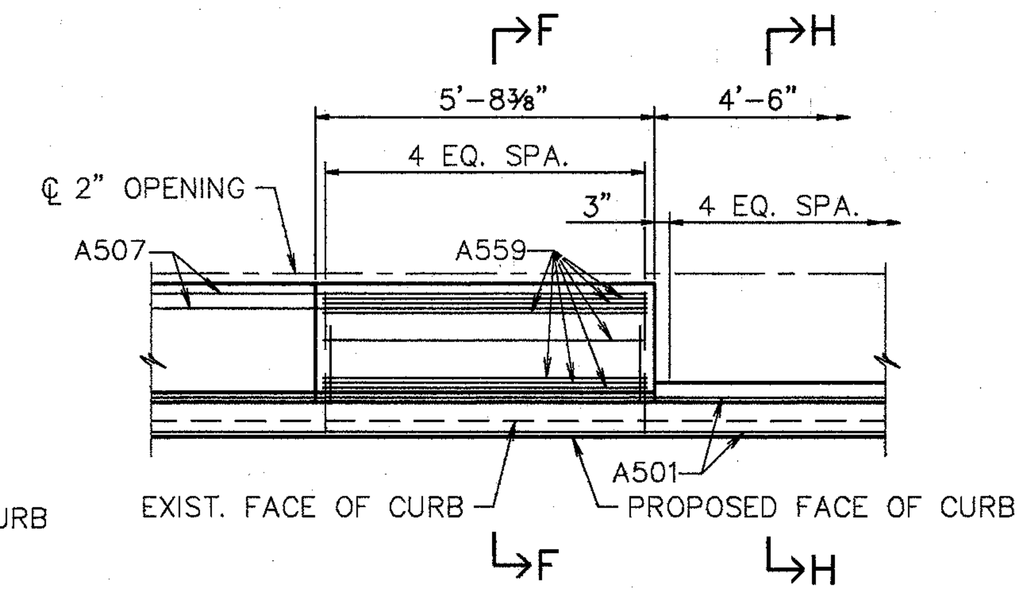
DETAIL QS5



DETAIL QS6



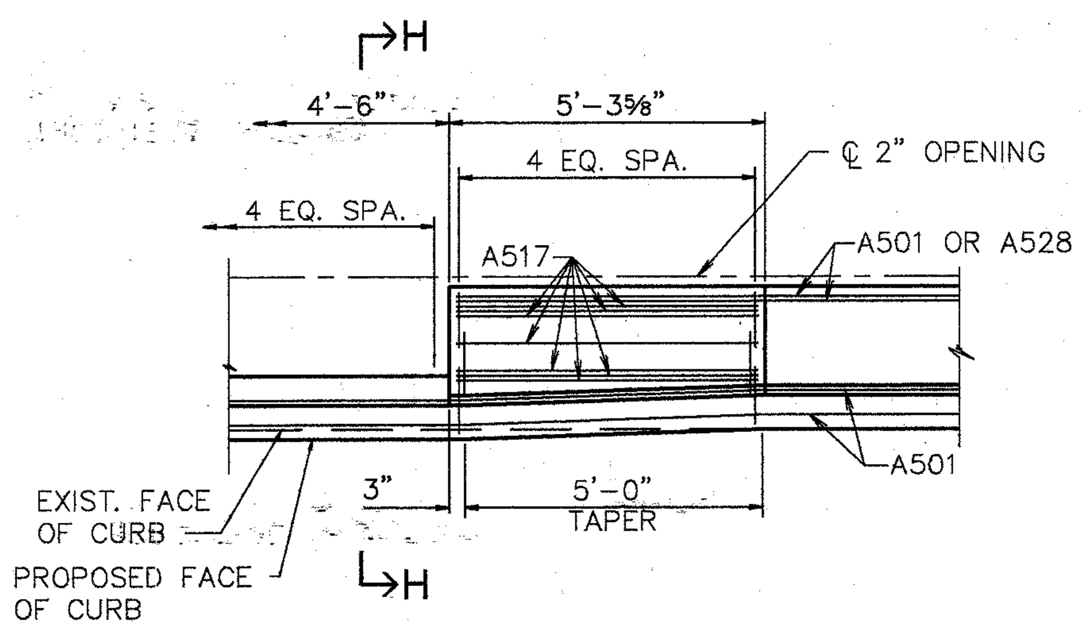
DETAIL GS1



DETAIL GS2

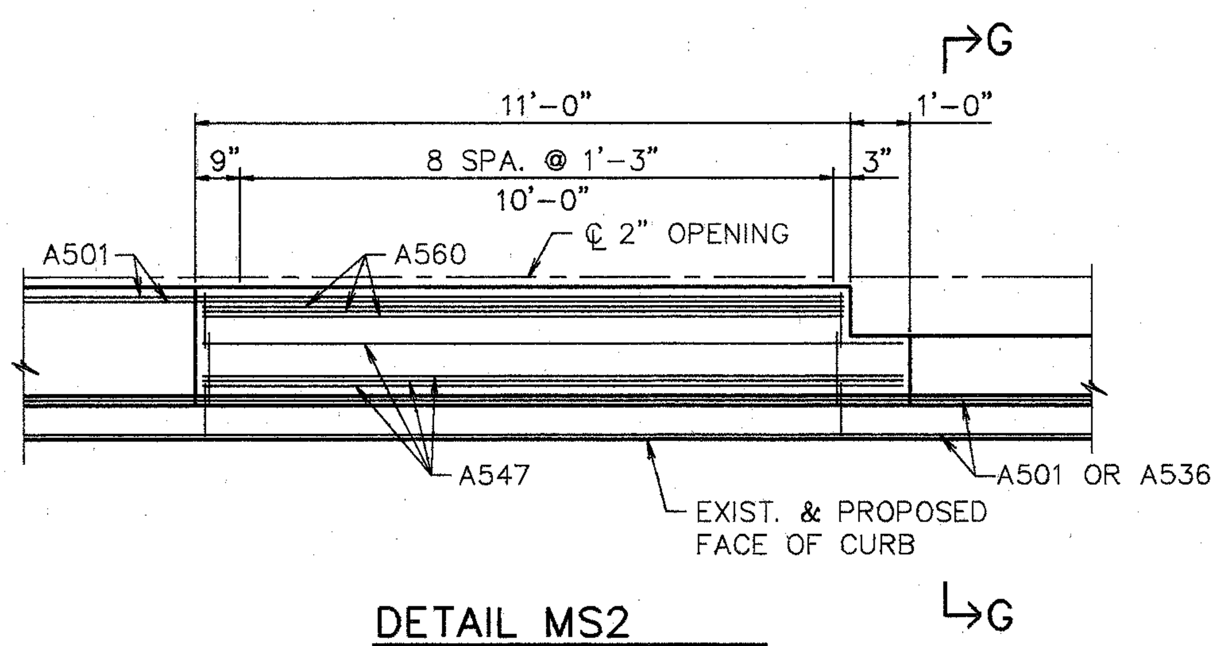
NOTE:

FOR SECTIONS SEE SHT. 11/16

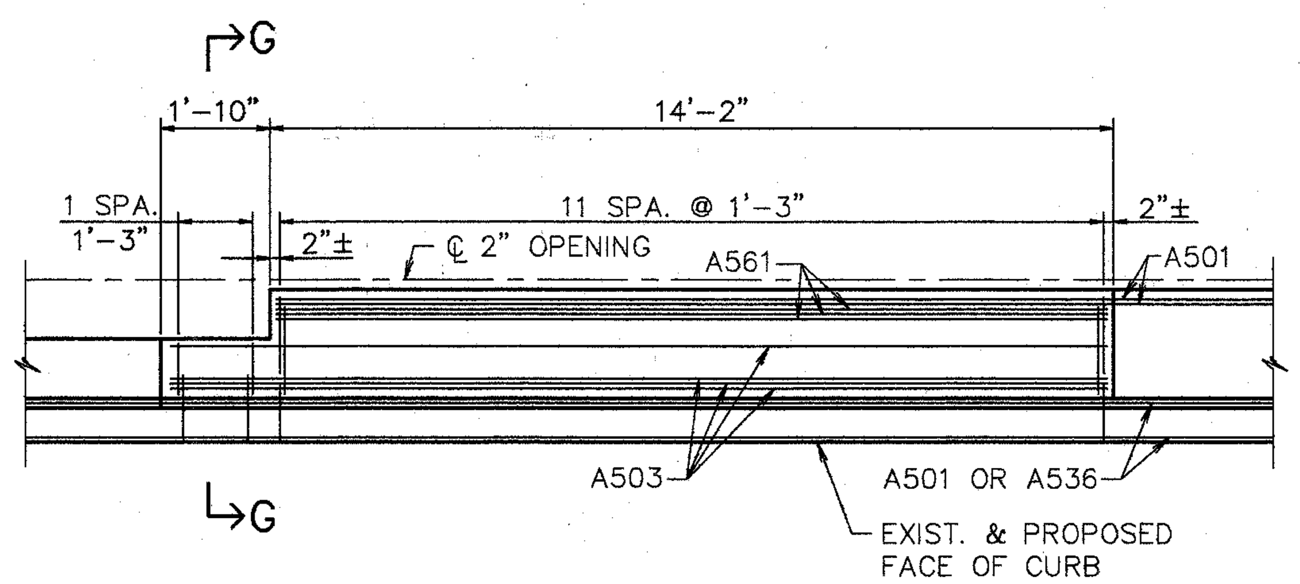


NOTE: STEEL TO BE BENT IN FIELD AS REQUIRED

DETAIL HS1



DETAIL MS2



DETAIL QS7

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6/16

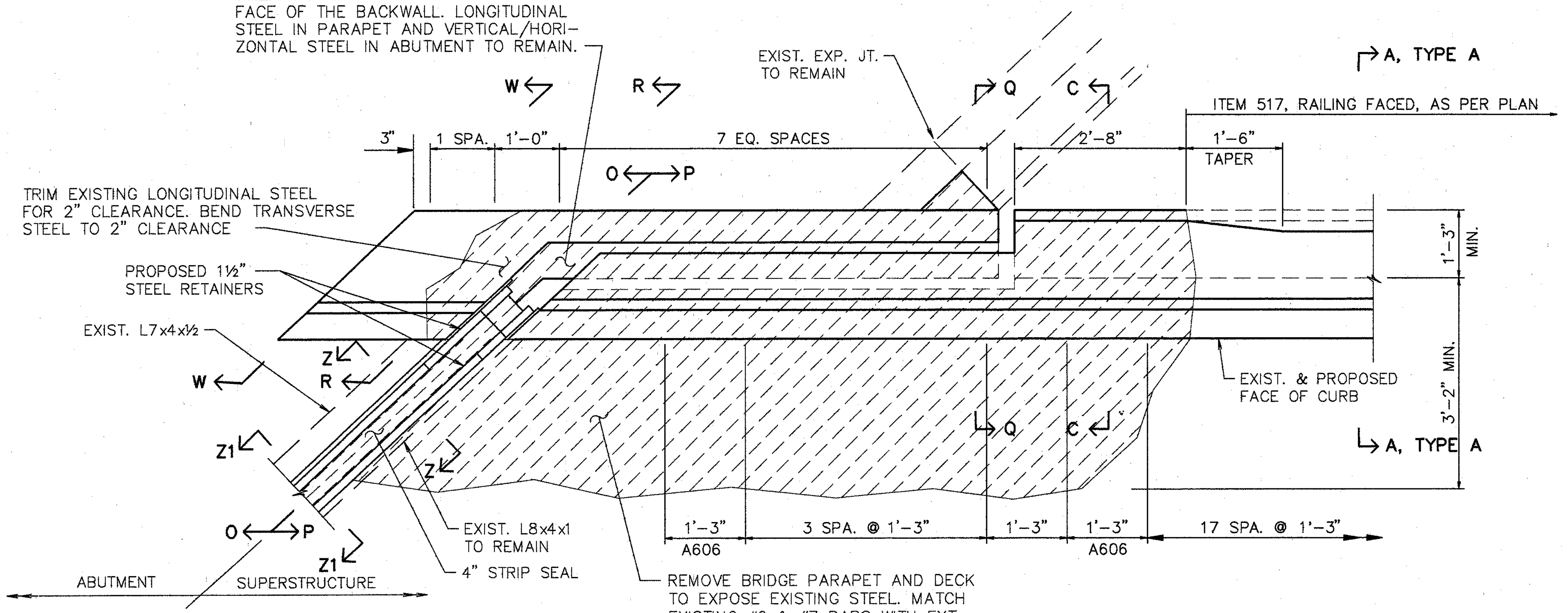
MEDIAN DETAILS PLAN VIEWS

BRIDGE NO. HAM-71-0154
OVER S.B. 471

HAMILTON COUNTY

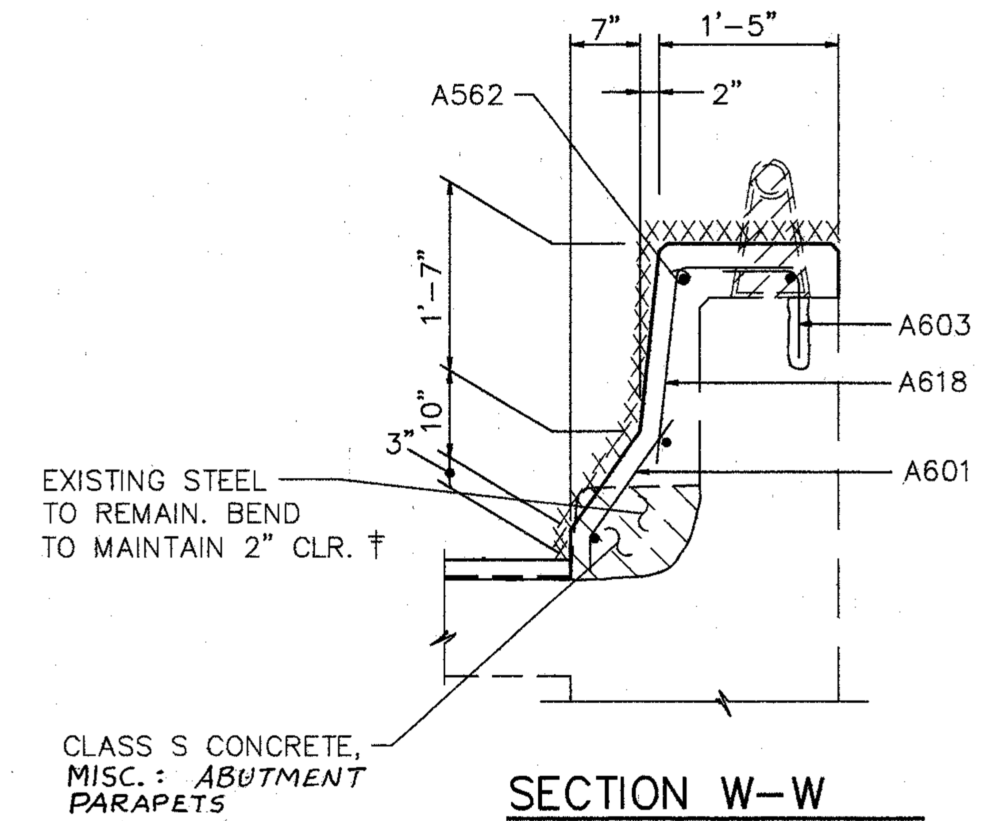
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	11/11/94	

HAM-71-1.30/9.00
OHIO
F.H.W.A. REGION 5
285
401
HAM-71-1.30/9.00
ABUTMENT
SUPERSTRUCTURE
ITEM 517, RAILING FACED, AS PER PLAN
2'-8" MIN
1'-6" TAPER
TRIM CURTAIN WALL STEEL BELOW TO 2" CLEAR FOR A 6" DEEP CONCRETE CAP NEXT TO BEAM SUPPORT.
3'-9" A562
2" TYP
2 EQ. SPACES
1'-0"
3"
CONC. REMOVAL LINE
REMOVE PARAPET ON ABUTMENT TO AN ELEVATION THAT WILL CLEAR THE BOTTOM OF THE BRIDGE EXTENTION WHEN CAPPED AND 1'-3" BEHIND THE FACE OF THE BACKWALL. LONGITUDINAL STEEL IN PARAPET AND VERTICAL/HORIZONTAL STEEL IN ABUTMENT TO REMAIN.
1'-3" MIN.
EXIST. & PROPOSED FACE OF CURB
TRIM EXISTING LONGITUDINAL STEEL FOR 2" CLEARANCE. BEND TRANSVERSE STEEL TO 2" CLEARANCE
2'-0" MIN.
3'-2" MIN.
PROPOSED 1½" STEEL RETAINERS
EXIST. L8x4x½
EXIST. L9x4x1
5" STRIP SEAL
REMOVE BRIDGE PARAPET AND DECK TO EXPOSE EXISTING STEEL. MATCH EXISTING #6 & #7 BARS WITH EXT ENTIONS FOR REINFORCEMENT OF NEW SLAB. (A612 LONGITUDINAL, A613 TRANSVERSE) POUR TO SCARIFIED LEVEL, LEAVE SURFACE ROUGH. CONCRETE AND REPLACEMENT WORK TO BE INCLUDED UNDER ITEM 511 – 'CLASS S CONCRETE, SUPERSTRUCTURE, (RECONSTRUCTION),' FOR PAYMENT.
PART – PLAN REAR ABUTMENT A (LEFT)
† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONCRETE REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION, SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.
NOTE: COST TO REMOVE PORTIONS OF ABUTMENT AND SUPERSTRUCTURE TO BE INCLUDED IN PRICE BID FOR ITEM 202 – 'PORTION OF SUPERSTRUCTURE REOVED.'
PROVIDE ANCHOR ASSEMBLIES FOR TYPE 'AT' OR 'AA' BRIDGE ASSEMBLIES AS PER STD. DWG. GR3. SEE ROADWAY DWGS. FOR TYPE LOCATION. PAYMENT TO BE INCLUDED WITH GUARDRAIL.
REMOVE PARAPET ON ABUTMENT TO AN ELEVATION THAT WILL CLEAR THE BOTTOM OF THE BRIDGE EXTENTION WHEN CAPPED AND 6" BEHIND THE FACE OF THE BACKWALL. LONGITUDINAL STEEL IN PARAPET AND VERTICAL/HORIZONTAL STEEL IN ABUTMENT TO REMAIN.
PROPOSED 1½" BAR
EXIST. L8x4x½
EXISTING L-9x4x1
PROPOSED 1½" STEEL RETAINERS
5'-0"
3 EQ SPA = 3'-9"
4" STRIP SEAL
1'-3"
4 EQ SPA = 5'-0"
1'-6"
7¼"
2 SPA @ 1'-3"
1'-0"
3'-2" MIN.
PROPOSED & EXIST. FACE OF CURB
1'-3" MIN.
2'-8 MIN
1'-6" TAPER
ITEM 517, RAILING FACED, AS PER PLAN
TRIM EXISTING LONGITUDINAL STEEL FOR 2" CLEARANCE. BEND TRANSVERSE STEEL TO 2" CLEARANCE. REPLACE TO MATCH EXISTING.
REMOVE BRIDGE PARAPET AND DECK TO EXPOSE EXISTING STEEL. MATCH EXISTING #6 & #7 BARS WITH EXTENTIONS FOR REINFORCEMENT OF NEW SLAB. POUR TO SCARIFIED LEVEL AND LEAVE SURFACE ROUGH. CONCRETE AND REPLACEMENT WORK TO BE INCLUDED UNDER ITEM 511 – 'CLASS S CONCRETE, SUPERSTRUCTURE, (RECONSTRUCTION),' FOR PAYMENT.
TRIM CURTAIN WALL STEEL BELOW TO 2" CLR. FOR A 6" DEEP CONCRETE CAP NEXT TO BEAM SEAT.
PART – PLAN REAR ABUTMENT A (RIGHT)
● – PROPOSED BARS
○ – EXIST. BARS
2'-0"
3½"
1'-8½"
A620
A526
A619
A501
POUR ROUGH TO SCARIFICATION
PROPOSED 1¾" OVERLAY
¼" SCARIFICATION
A616
EXTEND #6 BARS WITH A613
EXTEND #7 BARS WITH A701
EXISTING #6 BARS TO REMAIN
LAP #5 BARS WITH A528
BEND AS REQUIRED TO MAINTAIN 2" CLR. †
LAP #6 BARS WITH A612
¾" CLR.
6" MIN.
CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
SECTION E–E
NOTE:
FOR SECTIONS NOT SHOWN SEE SHT. 11&12/16
2'-0"
1'-4"
8"
A633
A564 (TYP.)
2'-4"
4"
2" JOINT SEALER, 705.04
5'-8"
CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
1" PEJF
WIDENED APPROACH SLAB
A558, EMBEDDED 6" MIN. INTO BACKWALL
SECTION V–V
ABUTMENT
SUPERSTRUCTURE
5" STRIP SEAL
EXIST. FACE OF CURB
PROPOSED END DAM SEE PLAN END DAM @ WIDENED AREAS, SHEET 12/16
PROPOSED 1½" STEEL RETAINERS
PROPOSED FACE OF CURB
EXISTING 1" EXPANSION JOINT TO BE CONTINUED THROUGH NEW CONSTRUCTION. FILL EXPANSION JOINT (FULL HEIGHT OF PARAPET ONLY) WITH EITHER 1" GRAY SPONGE RUBBER OR 1" GRAY CELLULAR POLYVINYL CHLORIDE (PVC) SPONGE. IF RUBBER IS USED, IT SHALL MEET THE REQUIREMENTS OF AASHTO M-153. INCLUDE WITH COST FOR ITEM 511 – CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
A563, LONGITUDINAL
EXIST. & PROPOSED FACE OF CURB
PROPOSED BAR
EXIST. L9x4x1
EXIST. L8x4x½ (TRIM)
4" STRIP SEAL
2 EQ. SPA
1'-9"
NOTE: COST FOR BARRIER CAST ON ABUTMENT SHALL BE INCLUDED IN ITEM 511 – 'CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
REINFORCING STEEL SHALL BE INCLUDED IN PRICE BID FOR ITEM 509, EPOXY COATED REINFORCING STEEL, GRADE 60.
B, SIM.
PART – PLAN REAR ABUTMENT A MEDIAN BARRIER
2'-0"
1'-8½"
3½"
CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
A630
A631
A564 (TYP.)
2'-0"
5"
3"
2'-1¾" MIN.
A632, 6" MIN. EMBEDMENT
CLASS C CONCRETE ABUTMENT, RECONSTRUCTION
EXISTING STEEL TO REMAIN. BEND & TRIM TO MAINTAIN 2" CLEARANCE †
SECTION T–T
2'-0"
1'-8½"
3½"
CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
A564 (TYP.)
2'-2½"
2½"
3"
A633
2" JOINT SEALER, 705.04
5'-8"
1" PEJF
WIDENED APPROACH SLAB
A558, EMBEDED 6" MIN. INTO BACKWALL
SECTION U–U
WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660
7/16
PART PLANS @ REAR ABUTMENT A
BRIDGE NO. HAM-71-0154 L/R OVER S.B. 471
HAMILTON COUNTY
DESIGNED L.A.T.M.
DRAWN D.E.E.
TRACED
CHECKED M.A.A.
REVIEWED D.E.M.
DATE 1/11/94
REVISED

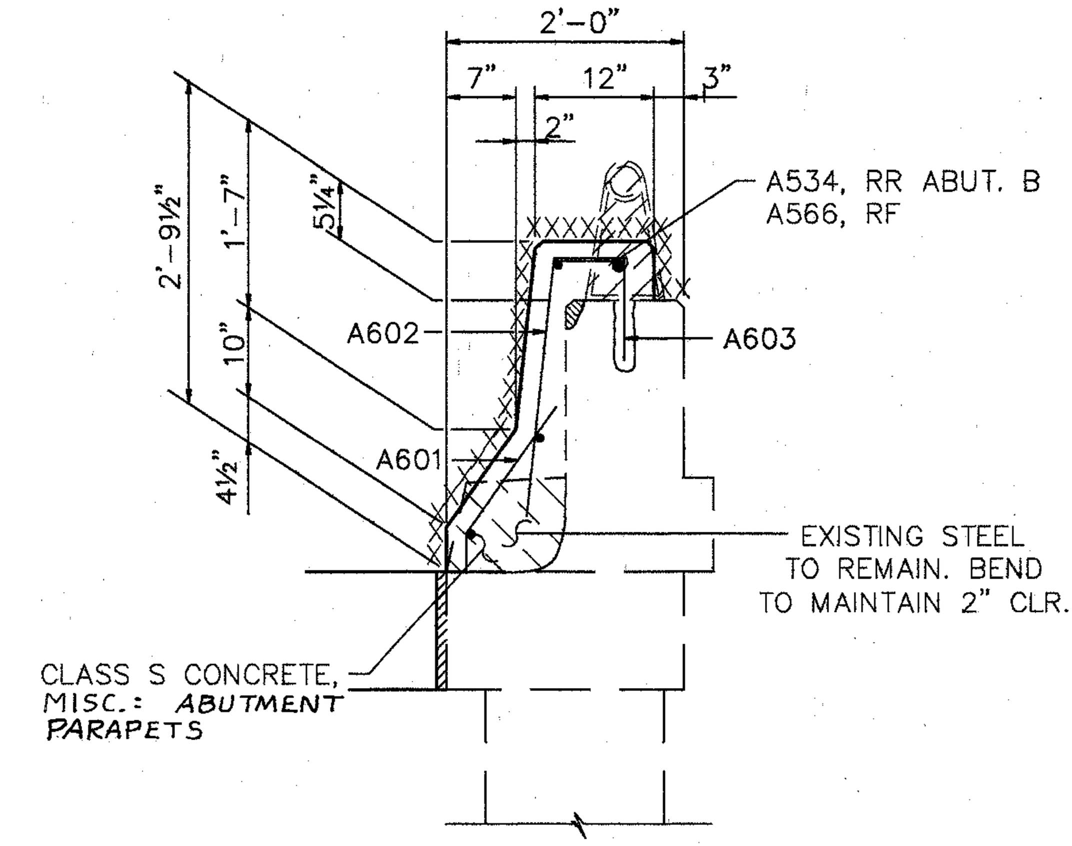


PART – PLAN REAR ABUTMENT B (LEFT)

COSTS TO REMOVE PORTIONS OF ABUTMENT AND SUPERSTRUCTURE TO BE INCLUDED IN PRICE BID FOR ITEM 202 – 'PORTION OF STRUCTURE REMOVED.'

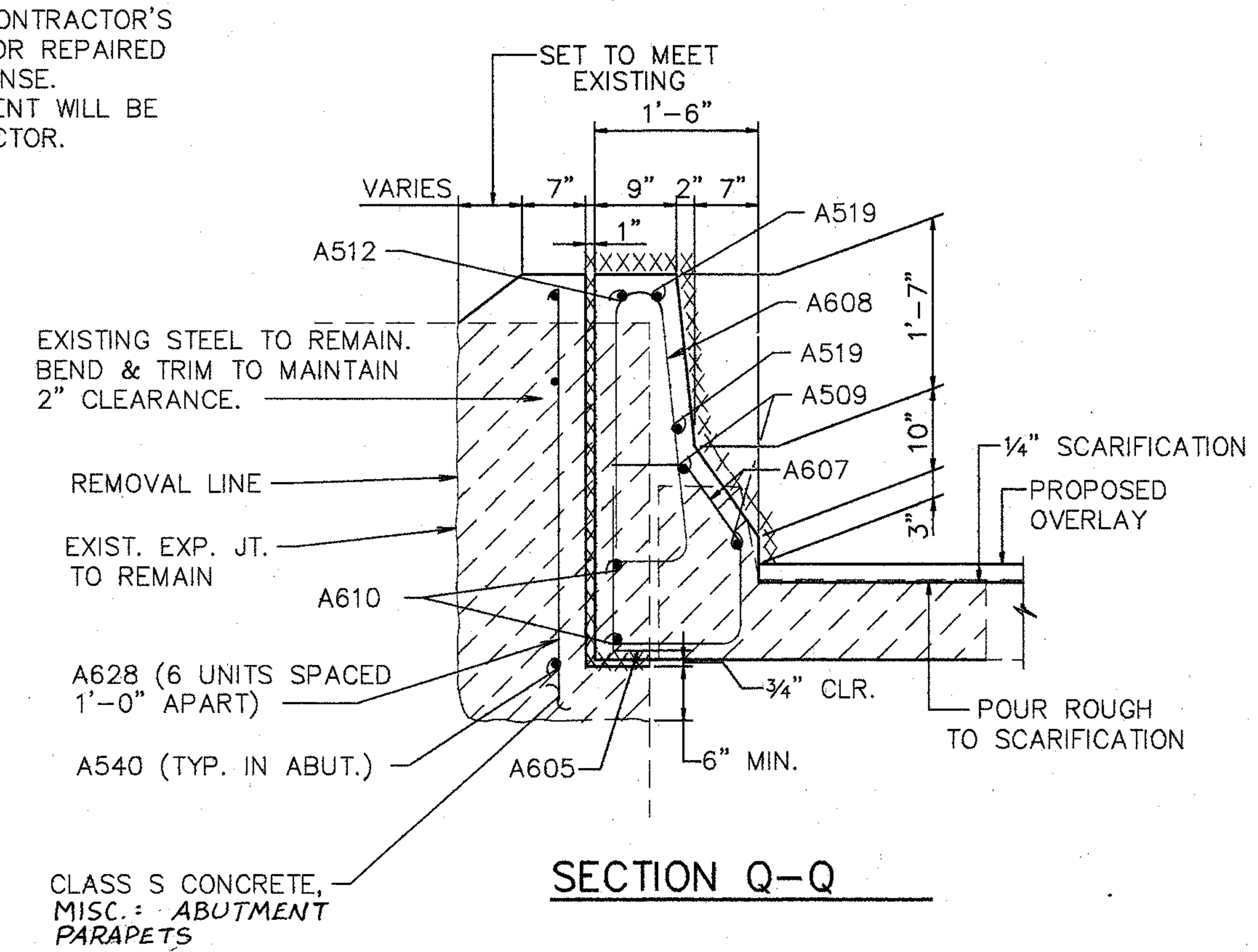


SECTION W-W

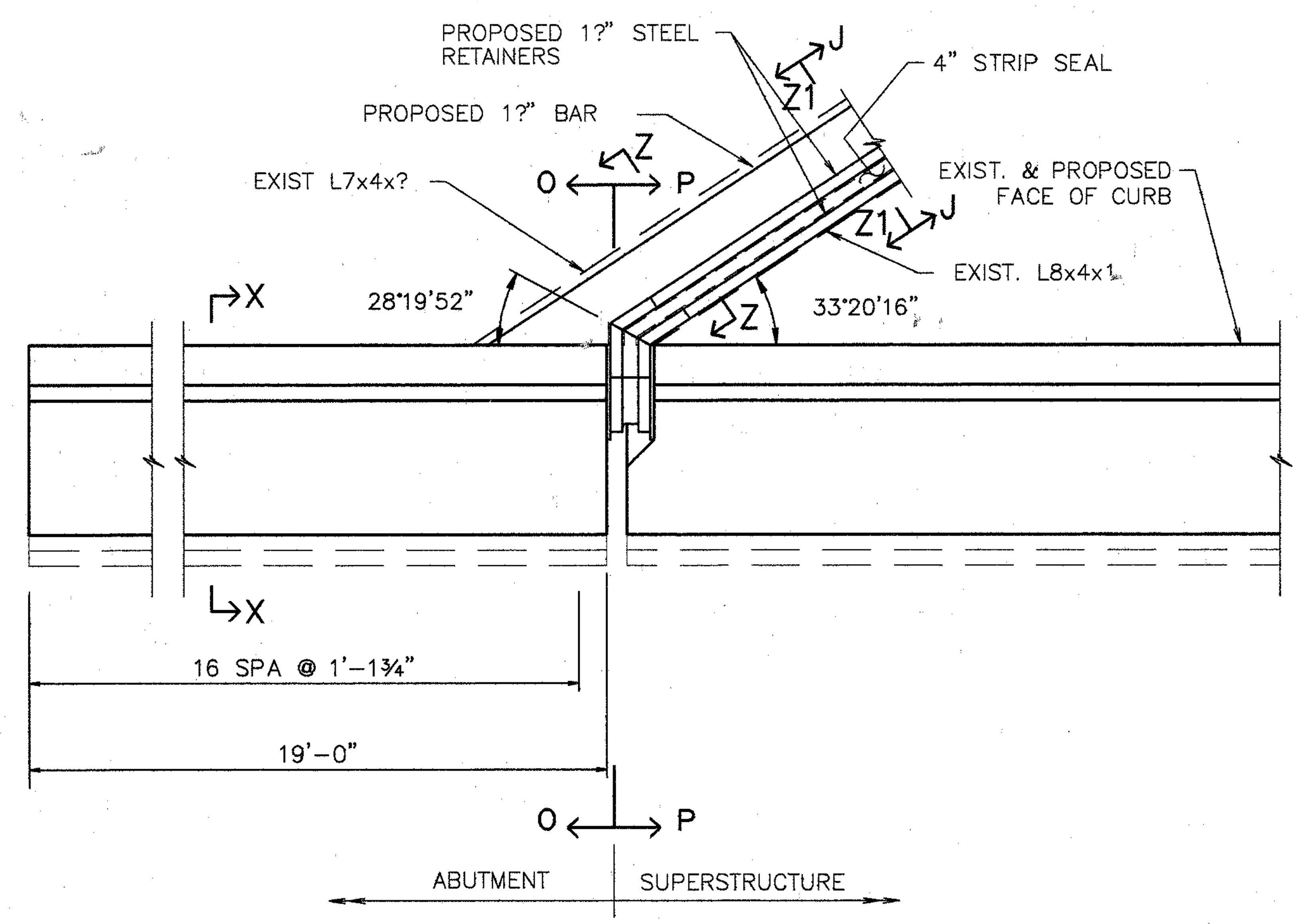


SECTION X-X

† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONCRETE REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION, SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.



SECTION Q-Q



PART – PLAN REAR ABUTMENT B (RIGHT)

NOTE:

FOR SECTIONS NOT SHOWN SEE SHT. 11&12/16

FOR SECTION A-A SEE GEN. DTL. SHT. 273/401

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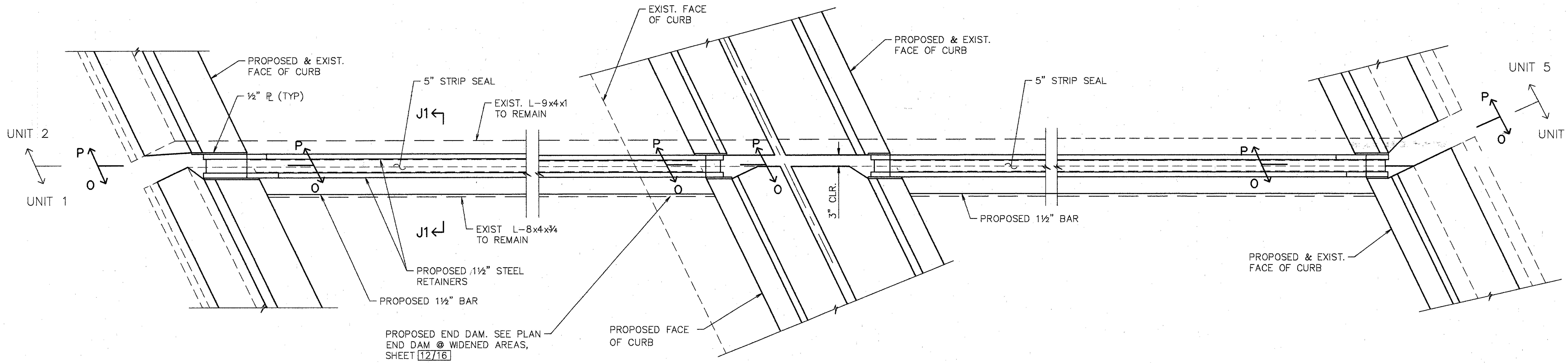
PART PLANS @ REAR ABUTMENT B

BRIDGE NO. HAM-71-0154 L/R OVER S.B. 471

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	11/11/94	

PART - PLAN @ PIER 3E



PART - PLAN @ PIER 6 E & W

NOTE:
FOR SECTIONS NOT SHOWN SEE SHT. 3,11,&12/16

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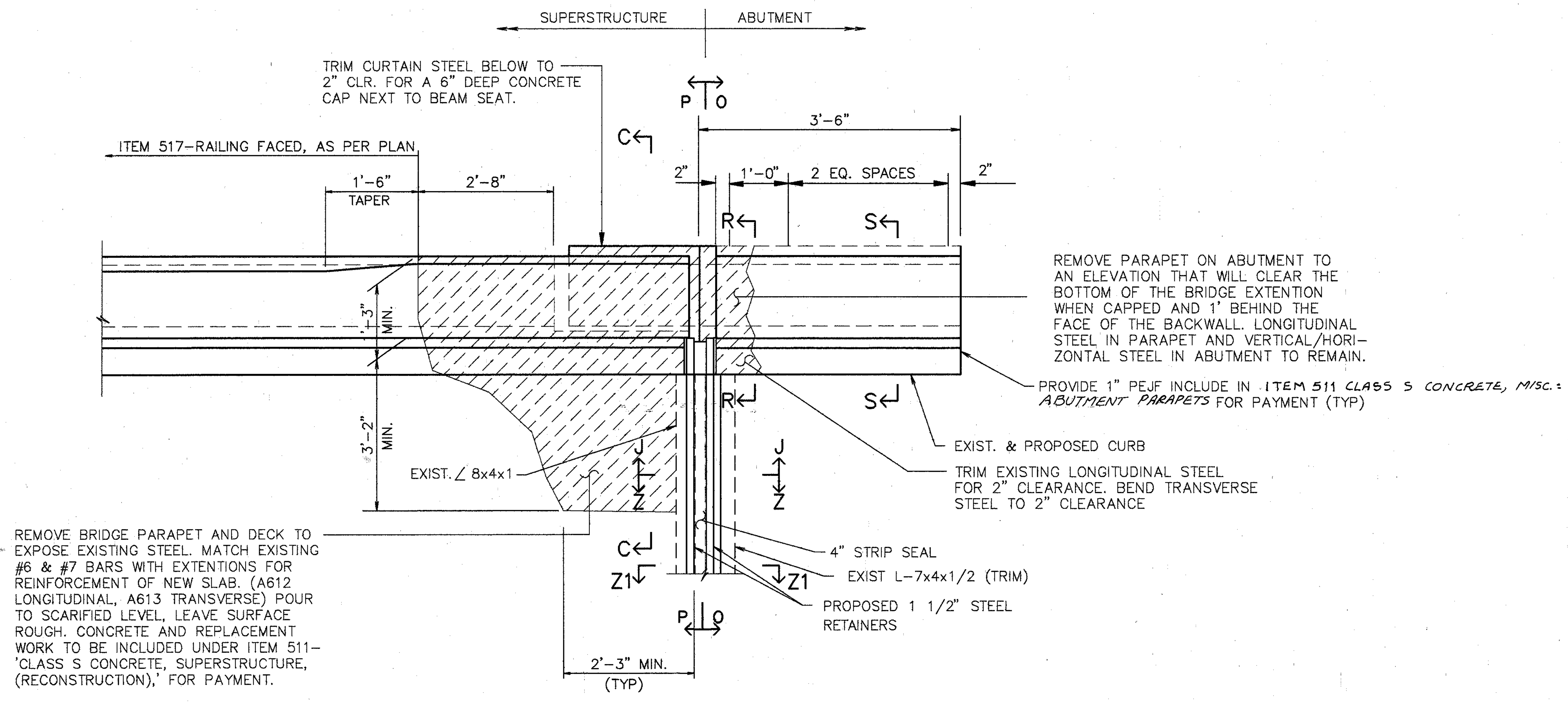
PART PLANS @ INT. JOINTS

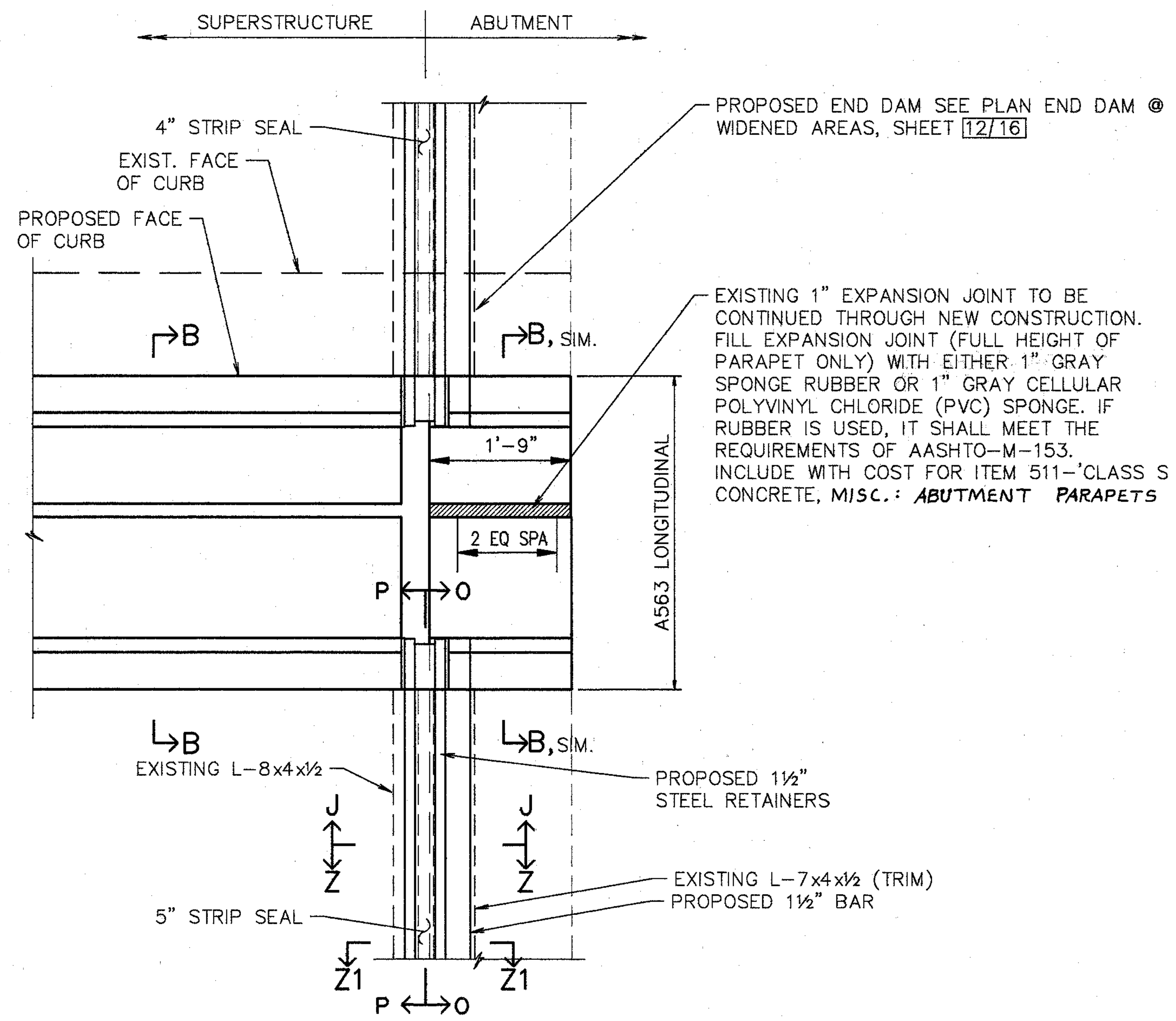
BRIDGE NO. HAM-71-0154 L/R
OVER S.B. 471

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 11/11/94	

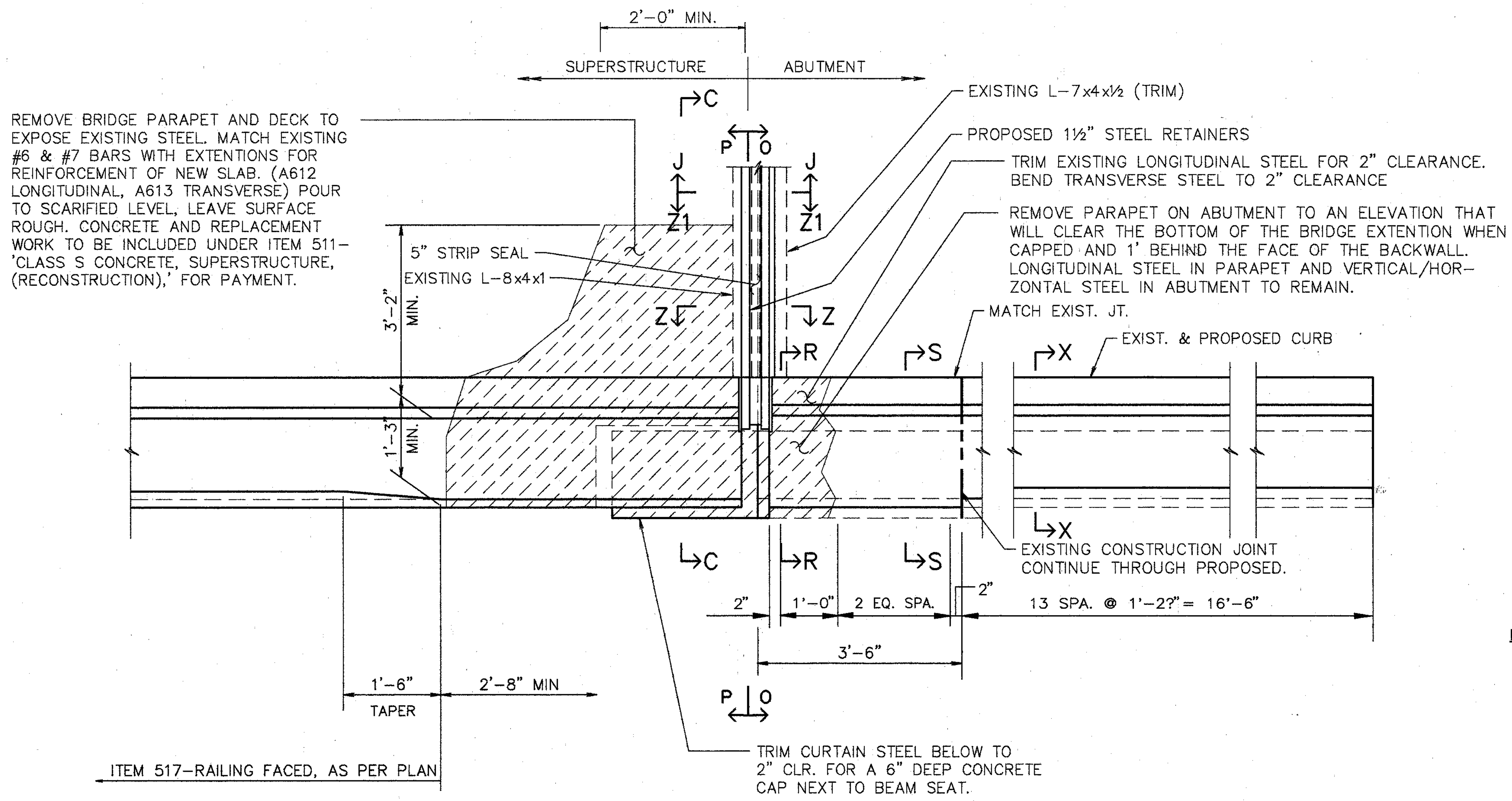


PART – PLAN FORWARD ABUTMENT (LEFT)



NOTE: COST FOR BARRIER CAST ON ABUTMENT SHALL BE INCLUDED IN ITEM 511 – CLASS S CONCRETE, MISC.: ABUT. PARAPET FOR PAYMENT.

PART – PLAN FORWARD MEDIAN BARRIER



PART – PLAN FORWARD ABUTMENT (RIGHT)

NOTE:

FOR SECTIONS NOT SHOWN SEE SHT. 11&12/16

COST TO REMOVE PORTIONS OF ABUTMENT AND SUPERSTRUCTURE TO BE INCLUDED IN PRICE BID FOR ITEM 202-'PORTION OF STRUCTURE REMOVED.'

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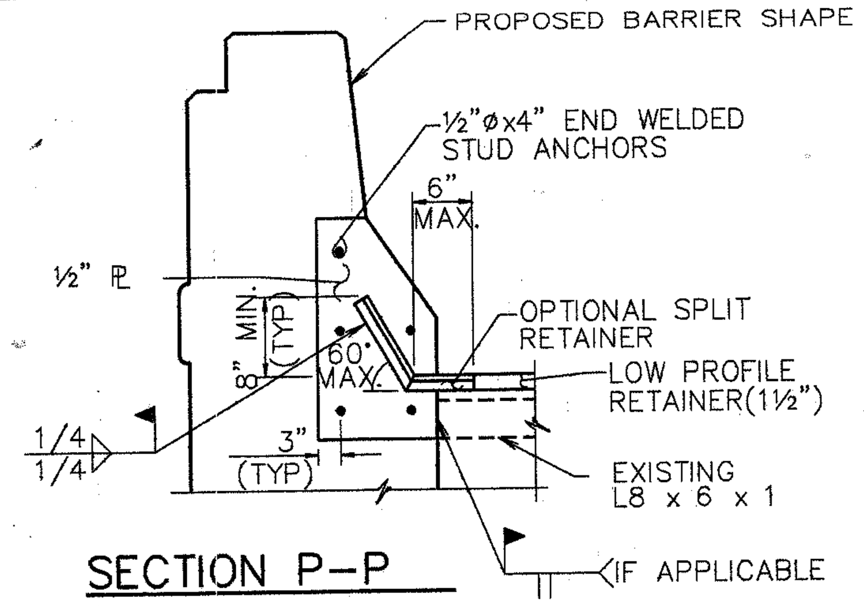
PART PLANS @ FWD. ABUT.

BRIDGE NO. HAM-71-0154 L/R
OVER S.B. 471

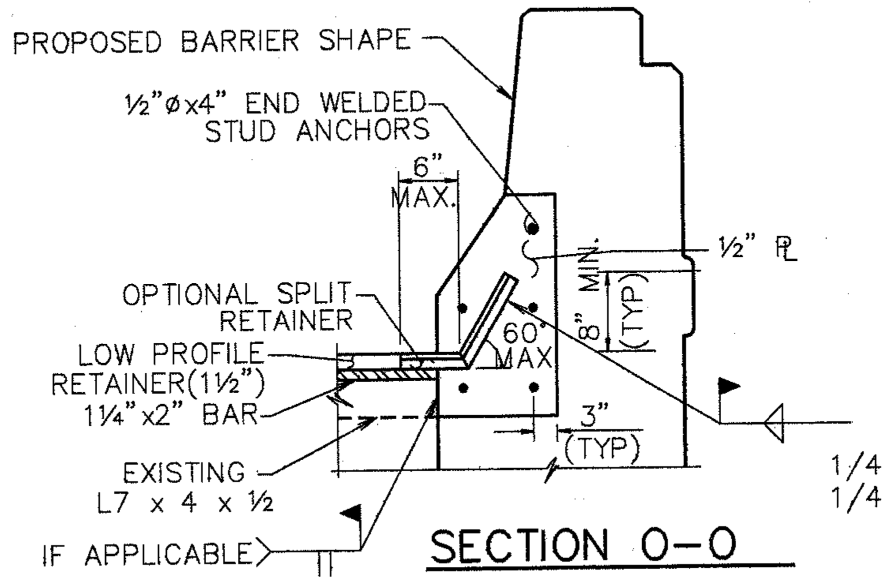
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	1/11/94	

HAM-71-1.30/9.00
OHIO
F.H.W.A. REGION 5
289
401
CALC BY L.A.T.M. CHK'D BY D.E.M.
HAM-71-1.30/9.00
EXIST. RAILING & POSTS TO BE REMOVED & STACKED NEATLY ALONG THE RIGHT-OF-WAY FOR DISPOSAL BY THE CONTRACTOR. ALL WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202 'PORTION OF STRUCTURE REMOVED'
EXISTING CURB TO BE REMOVED UNDER ITEM 202-'PORTIONS OF STRUCTURES REMOVED'
XXXX SURFACES TO BE SEALED UNDER ITEM SPECIAL-'SEALING OF CONCRETE SURFACES'
℄ N.B. & S.B. EXP.WAY
℄ 2" OPEN JOINT
℄ LAMP STANDARD
SEE CROSS SECTION @ LAMP STANDARDS FOR REINFORCING BARS NEAR LAMP STANDARDS.
ITEM 511, CLASS S CONC. MISC: CONCRETE PARAPET RAILING, AS PER PLAN, ON SUPERSTRUCTURE. FOR WORK ON ABUTMENT, INCLUDE COST WITH ITEM 511, CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
ITEM 511, CLASS C CONCRETE ABUTMENT, RECONSTRUCTION (SECTION AT ABUTMENT ONLY)
REMOVE CURB (AND BACKWALL AT ABUTMENT SECTIONS) EXIST. STEEL TO REMAIN. CUT OR BEND TO MAINTAIN 2" CLR. (TYP) †
A608
3/16"/FT. OR MATCH EXIST.
A615
A617
A618
A616, 6" MIN. EMBEDMENT
A614, 6" MIN. EMBEDMENT
PROPOSED 1¾" OVERLAY
¼" SCARIFICATION BRIDGE SECTION ONLY
REMOVE EXISTING STEEL ¼" BELOW BRIDGE DECK OR TO TOP OF BACKWALL
EXISTING STEEL TO REMAIN
NOTE: ALL EXISTING BARS NOT SHOWN FOR CLARITY. SEALING TYPICAL FOR BOTH SIDES.
SEE MEDIAN PARAPET TYPE TABLE FOR BAR MARKS (A), (B) AND (C) SHT. 5/16
SECTION B-B
A605 OR A617 @ 18"
A622 OR A635 @ 18", PLACE WITH EXIST. BARS
A614
5"±
℄ LAMP STANDARD
ANCHOR BOLTS, SEE LIGHTING PLANS AND STD. DWGS. FOR DTLS.
A618 OR A636 BARS @ 9"
A616
BEND EXIST. REINF. BAR UP TO 45° FRONT FACE, VERTICAL FAR FACE EXTEND BARS WITH A567 BAR USING A COMPLETE PENETRATION WELD. COST INCLUDED IN ITEM 509.
#6 BARS @ 18"~SPACE BETWEEN EXIST. BARS~AVOID REINF. STEEL IN SLAB.
EXIST. #5 BARS @ 18" TO REMAIN
NOTE: ALL EXISTING BARS NOT SHOWN FOR CLARITY.
CROSS SECTION @ LAMP STANDARDS
NOTE: -PLACED AT SPACING SHOWN IN PARAPET PANEL THAT INCLUDES LAMP STANDARD. -50" BARRIER SHALL BE DISCONTINUED 9" EITHER SIDE OF ℄ OF LAMP STANDARD. BARRIER SHALL BE 32" AS SHOWN BENEATH LAMP STANDARD. SEE ELEVATION DETAIL SHEET 4/16
• - PROPOSED BARS
○ - EXIST BARS
FACE OF CURB
TYPICAL #5 FROM BARRIER
BEND AS REQUIRED TO MAINTAIN 2" CLEARANCE (TYPICAL)
A606 OR A608
LAP #5 BARS TO EXTEND THROUGH ADDITION
CONSTRUCTION JOINT
LAP #6 BARS WITH A612
POUR ROUGH TO SCARIFICATION LEAVE SURFACE ROUGH
PROPOSED 1¾" OVERLAY
¼" SCARIFICATION
COST TO PLACE CAP TO BE INCLUDED IN ITEM 511- CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
A605
¾" CLR.
A604
EXTEND #6 BARS WITH A613
EXTEND #7 BARS INTO NEW CONSTRUCTION WITH A701
EXISTING #6 BARS TO REMAIN
6" MIN.
℄ 1"ø HALF ROUND DRIP GROOVE
CLASS S CONCRETE INCLUDED IN ITEM 511-'CLASS S CONCRETE, SUPERSTRUCTURE, (RECONSTRUCTION)'
EXISTING CURTAIN WALL
SECTION C-C
† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONC. REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.
A526
A603
A620
A526
A501
6" MIN. EMBEDMENT
A601
PROPOSED 1¾" OVERLAY
¼" SCARIFICATION
EXIST. STEEL TO REMAIN, BEND TO MAINTAIN 2" CLR. †
SECTION D-D
A618, A623 @ 5' TAPER, OR A625 @ 10' TAPER
A621, A624 @ 5' TAPER, OR A626 @ 10' TAPER
A614
A616
A617
A618
A616
ELECTRICAL CONDUIT, FOR DTLS. SEE LIGHTING PLANS, & STD. DWGS.
PROPOSED 1¾" OVERLAY
¼" SCARIFICATION
EXISTING STEEL TO REMAIN, BEND FOR 2" CLEARANCE
CURB TO BE REMOVED EXISTING STEEL TO REMAIN: CUT OR BEND STEEL TO MAINTAIN 2" CLR. †
VOID AREA TO BE FORMED. FORMS TO REMAIN. MAY BE RECTANGULAR OR CIRCULAR AS APPROVED BY THE ENGINEER.
SECTION F-F
SEALING IS TYPICAL FOR BOTH SIDES.
EXIST. COLUMN
A608
A614
A615
PROPOSED 1¾" OVERLAY
¼" SCARIFICATION
REMOVE EXISTING CURB, BEND & TRIM EXISTING STEEL TO MAINTAIN 2" CLR. †
6" MIN. EMBEDMENT
SECTION G-G
STEEL & SEALING TYPICAL FOR BOTH SIDES
SEAL PARAPETS THE SAME AS OUTSIDE PARAPETS. SEE SECT. A-A, GENERAL DTL. SHT. 273/401. PREFORMED EXP. JT. FILLER IN THE PARAPET DEFLECTION JOINTS MAY BE EITHER ¼" GRAY SPONGE RUBBER OR ¼" CELLULAR POLYVINYL CHLORIDE (PVC) SPONGE. IF RUBBER IS USED IT SHALL MEET THE REQUIREMENTS OF AASHTO M-153. CONCRETE PARAPETS ABOVE UPPER CONSTRUCTION JOINT SHALL BE PLACED IN ALTERNATE SECTIONS BY THE USE OF BULKHEADS. CLOSING SECTIONS SHALL BE PLACED AFTER REMOVAL OF BULKHEADS & AFTER PLACEMENT OF EXP. JT. FILLER. EXPOSED EDGES OF THE FILLER SHALL BE FLUSH W/THE SURFACE OF CONCRETE & SHALL BE FREE OF MORTAR.
½" GALVANIZED STEEL PLATE ANCHORED ON EACH SIDE OF COLUMN. SEE DETAIL H
EXIST. COLUMN
PROPOSED 1¾" OVERLAY
A627, 6" MIN. EMBEDMENT
¼" SCARIFICATION
SEE ALSO ELEVATION H, THIS SHEET.
SECTION H-H
4'-9"x1'-7"x ½" ℘
3 SPA. @ 5" BOLT SPACING
2 SPA. @ 5" ANCHOR SPA.
PROPOSED SURFACE
ELEVATION H
NOTE:
1. ALL STRUCTURAL STEEL TO BE GALVANIZED.
2. COST OF STRUCTURAL STEEL, BOLTS AND ANCHORS TO BE INCLUDED IN PRICE BID FOR ITEM 511 CLASS S CONCRETE MISC. CONC. PARAPET RAILING, AS PER PLAN
3. SEE SHT. 5/16 FOR BAR MARKS (A), (B) & (C).
½"ø X 4" END WELDED STUD ANCHOR
CONCRETE BARRIER
L3x2x¼"
½" ℘
½" x 1" BAR
℄ ⅜"ø x 1" COUNTER SUNK BOLT
SECTION I-I
WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE DAYTON, OHIO 45402-1226 (513) 461-5660
11/16
PARAPET SECTIONS
BRIDGE NO. HAM-71-0154 OVER S.B. 471
HAMILTON COUNTY
DESIGNED L.A.T.M. DRAWN D.E.E. TRACED CHECKED M.A.A. REVIEWED 11/11/94 D.E.M. REVISED



SECTION P-P



SECTION O-O

NOTE:

1. EXPANSION JT. DETAILS TO BE WORKED WITH STD. DWG. EXJ-4-87 SHTS. 1 thru 5.
2. WHEN PLATE IS RECESSED INTO ABUTMENT, CONCRETE BELOW PLATE SHALL BE SLOPED FROM BOTTOM OF THE PLATE TO THE END OF THE ABUTMENT TO DETER THE ACCUMULATION OF DEBIS.

† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONCRETE REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION, SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.

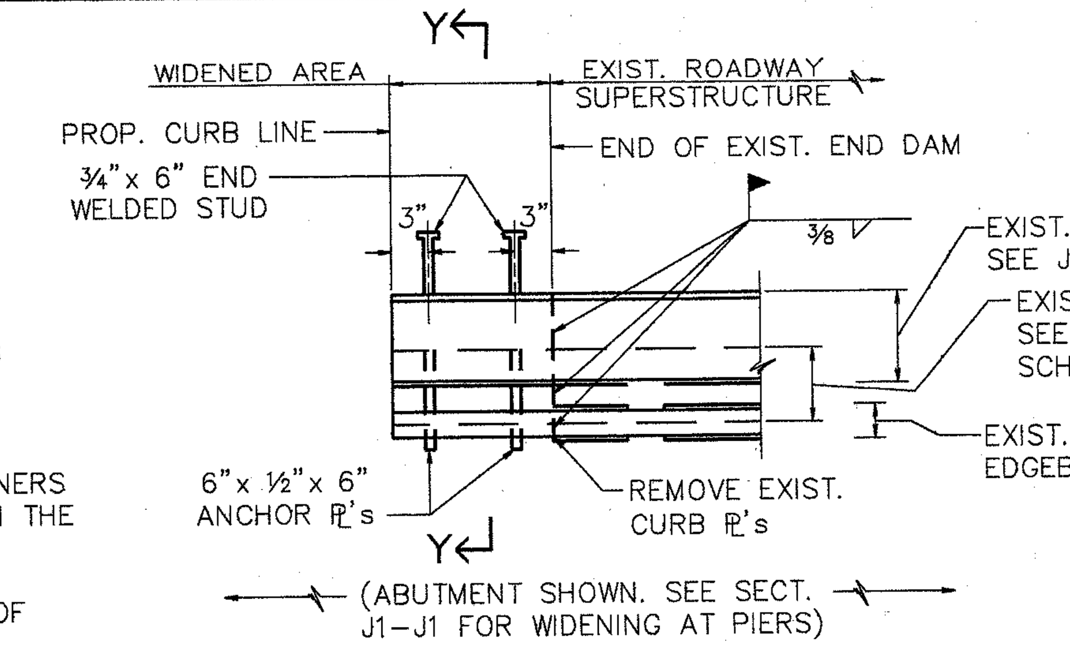
EXIST. CURB & PARAPET TO BR REMOVED UNDER ITEM 202-'PORTIONS OF STRUCTURES REMOVED'.

EXIST. RAILING & POSTS TO BE REMOVED & STACKED NEATLY ALONG THE RIGHT-OF-WAY FOR DISPOSAL BY THE CONTRACTOR. ALL WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202-'PORTIONS OF STRUCTURE REMOVED'.

XXXXXX SURFACES TO BE SEALED UNDER ITEM SPECIAL-'SEALING OF CONCRETE SURFACES.

NOTES:

1. PREFORMED EXPANSION JT. FILLER & SEALER AT CORNERS AND SIDES OF THE APP. SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YD. FOR THE APPR. SLAB.
2. TYPE 'A' WATERPROOFING AT THE BRIDGE LIMIT END OF THE APPROACH SLAB (AS PER STD. DWG. AS-1-81) SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611-REINFORCED CONCRETE, APPROACH SLABS.



NOTES:

1. END DAM WIDENING SHOWN IS FOR THE WEST EDGE OF MEDIAN.
2. FOR DETAILS & DIMS. NOT SHOWN SEE STD. DWG. SD-1-69.

PLAN END DAM WIDENED AREAS
MEDIAN @ ABUTMENT

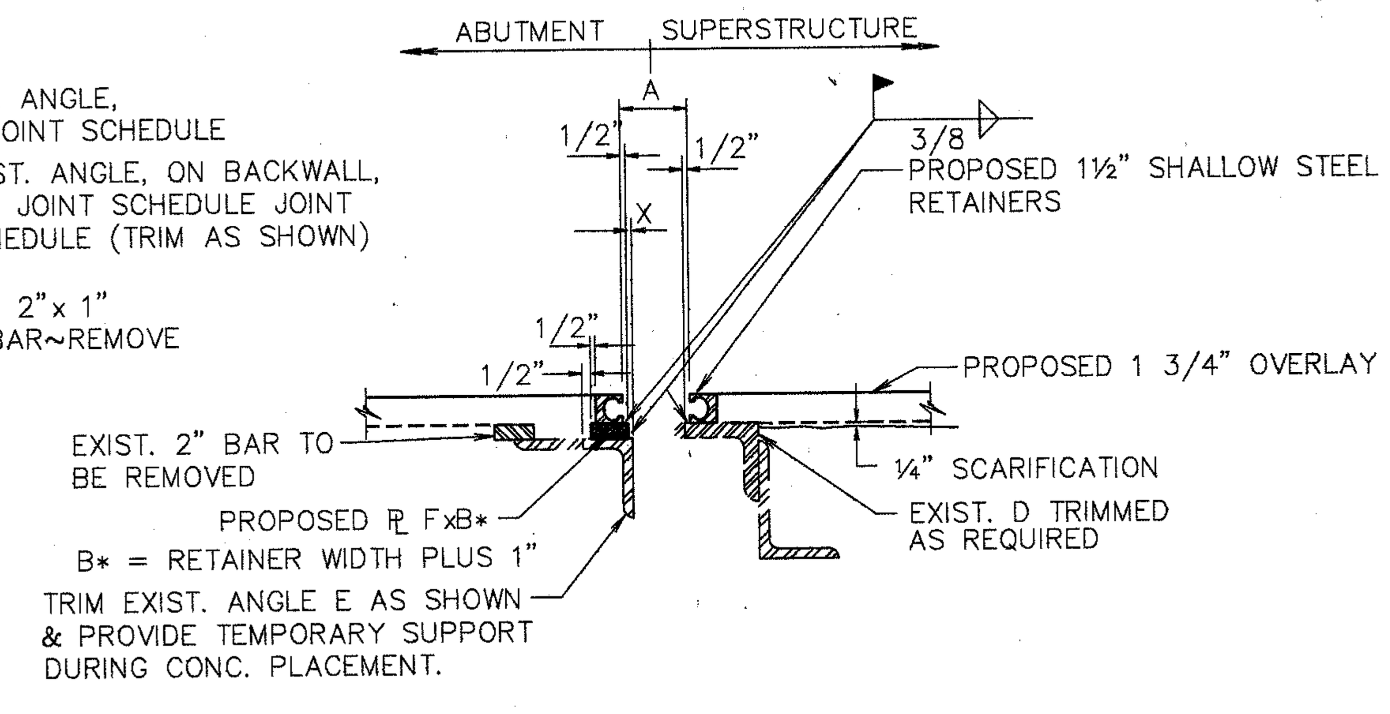
FOR END DAM WIDENING AT PIERS PROVIDE NEW STEEL AS SECTION J1-J1. CONNECTION OF ANGLES AS DETAILED ABOVE.

TEMPERATURE	DIMENSION A REAR LEFT	REAR RIGHT	REAR ABUT. B	PIER 3E	PIER 6	FORWARD LEFT	FORWARD RIGHT
40° F	3⅝	2¾	3½	2⅞	3¾	3⅛	3⅜
50° F	3⅜	2⅝	3⅜	2¾	3⅜	3	3⅛
60° F	3	2½	3¼	2⅝	3⅛	2⅞	2⅞
70° F	2¾	2¼	3⅛	2½	2¾	2¾	2⅝
80° F	2½	2⅛	3	2¼	2½	2⅝	2⅜
90° F	2¼	2	2⅞	2⅛	2⅛	2½	2⅛

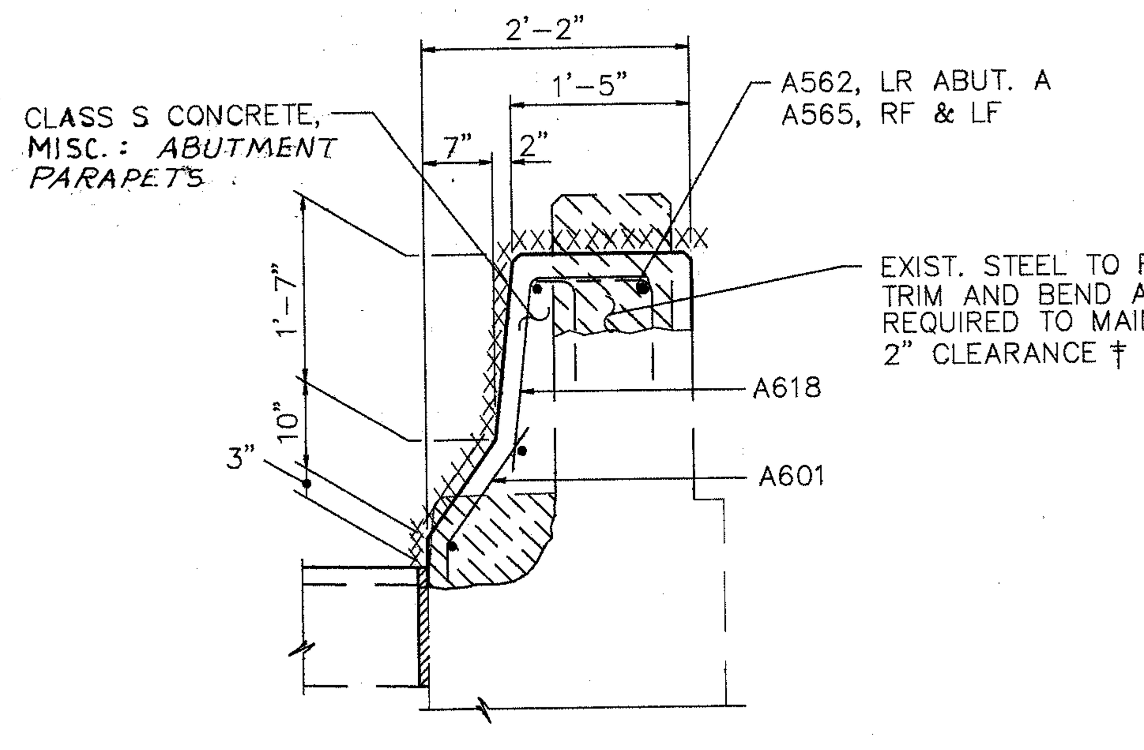
JOINT SCHEDULE

LOCATION	D	E	F
REAR ABUT A	L9x4x1	L8x4x½	1¼"
FORW. ABUT & REAR ABUT B	L8x4x1	L7x4x½	1"
PIER 3E	L8x4x1	L7x4x½	1"
PIER 6	L9x4x1	L8x4x¾	1"
PIER 6	L8x4x1	L7x4x½	1"

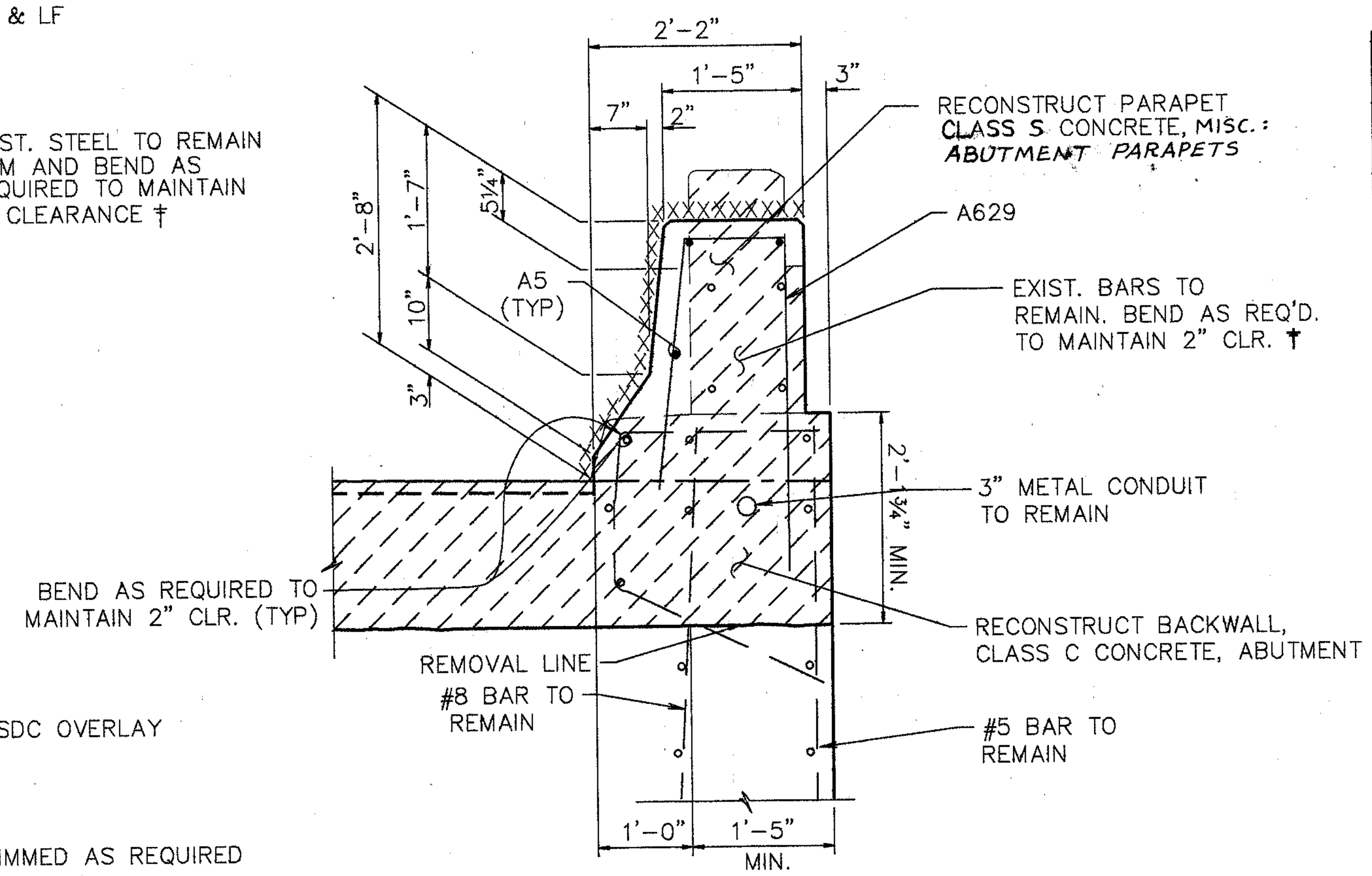
LOCATION	X
REAR A-LEFT	1¾"
REAR A-RIGHT	½"
REAR B	½"
PIER 3E	½"
PIER 6	½"
FWD LEFT	1⅛"
FWD RIGHT	1⅛"



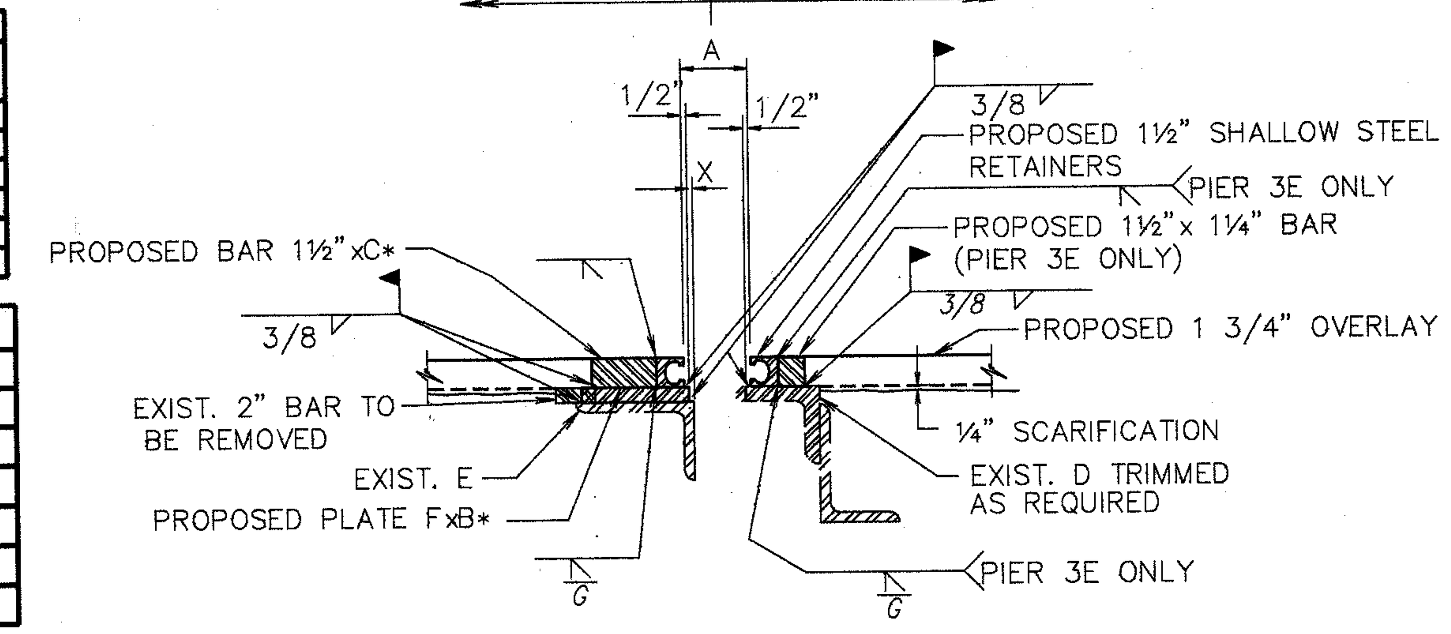
SECTION J-J



SECTION S-S

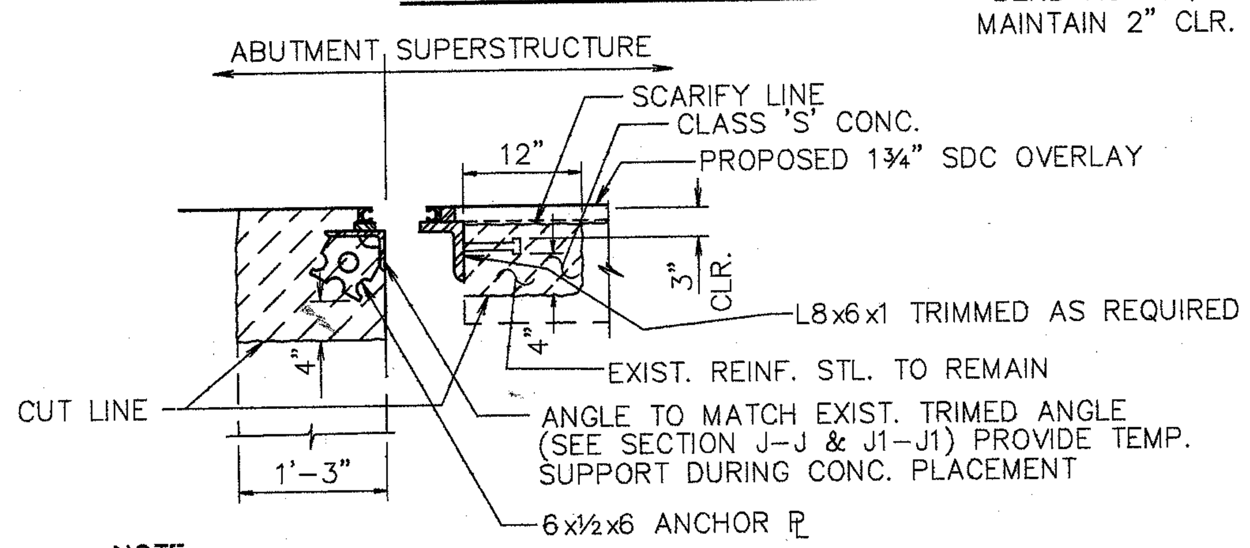


SECTION R-R



B* = ANGLE LEG MINUS (½"+"X")
C* = B* MINUS WIDTH OF RETAINER MINUS 1"

SECTION J1-J1

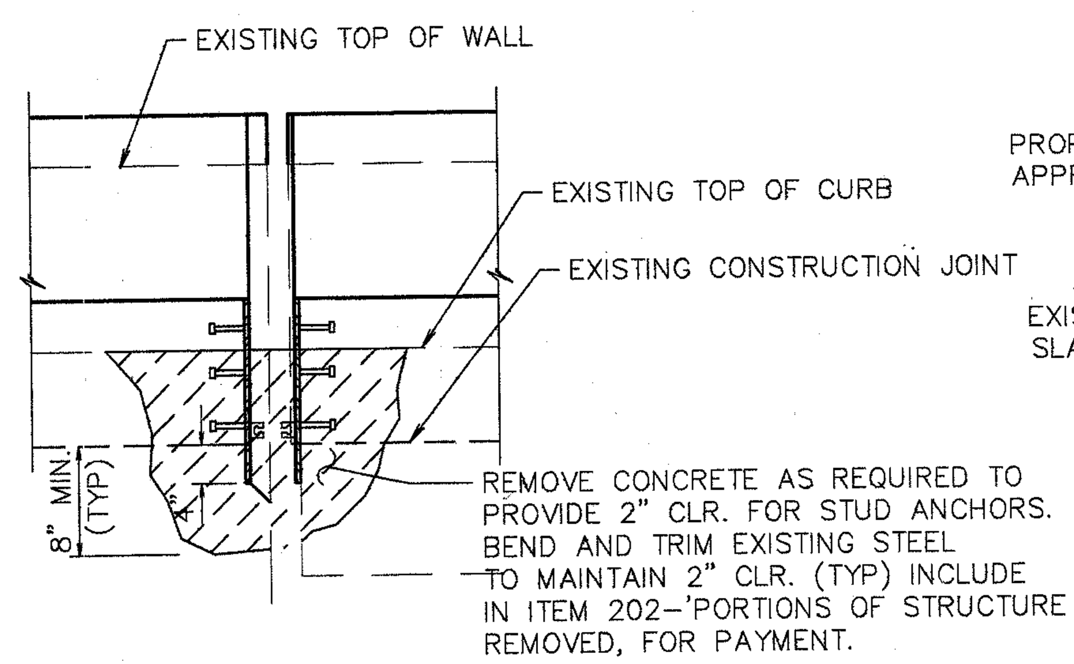


NOTE:

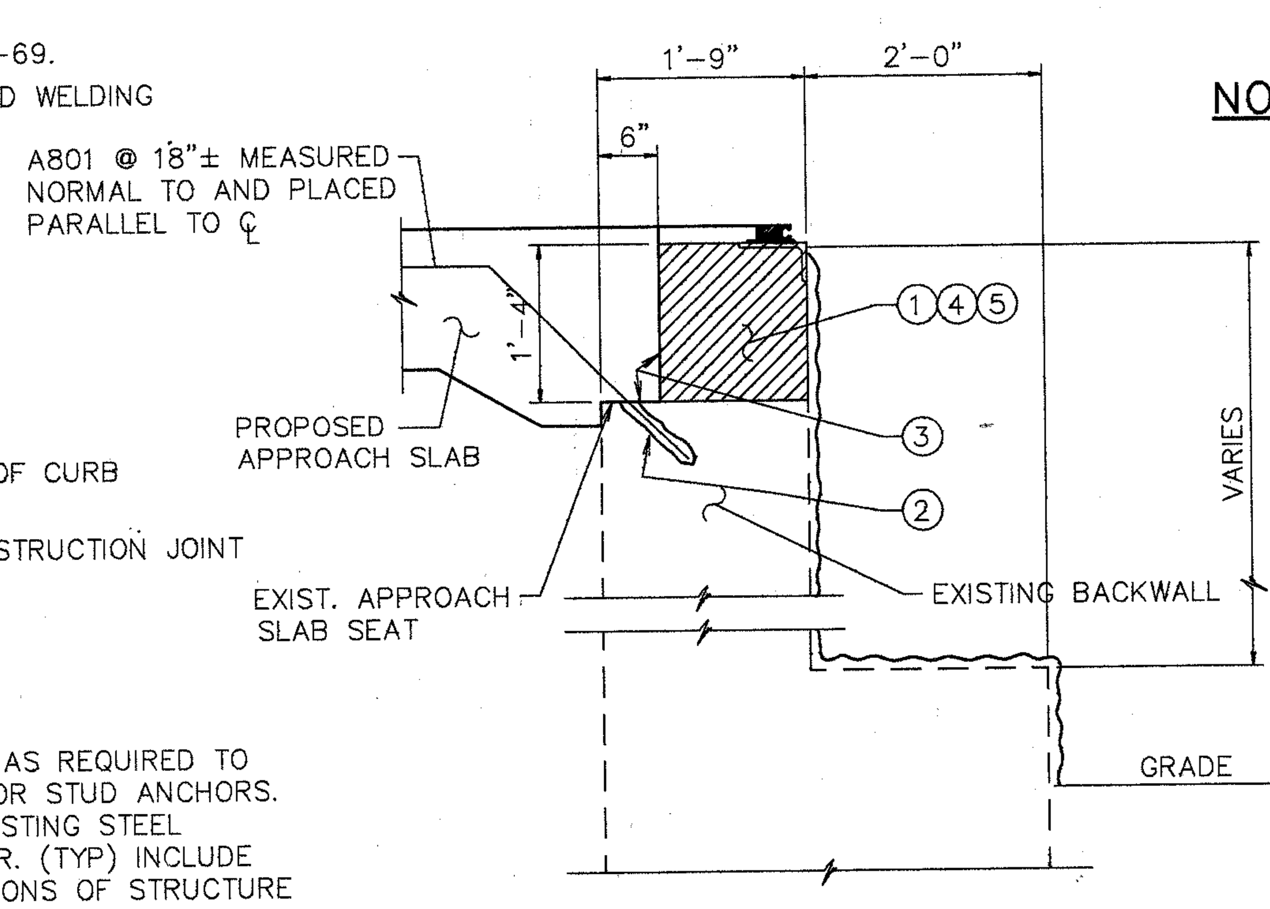
1. FOR DETAILS NOT SHOWN SEE STD. DWG. SD-1-69.
2. SEE SECTION J-J FOR RETAINER SPACING AND WELDING

(SHOWN FOR WIDENING AT ABUT. ~ PIER SIMILAR EXCEPT AS SHOWN IN SECT. J1-J1)

SECTION Y-Y



RETAINER PLATES AT EXPANSION JOINT



SECTION Z1-Z1

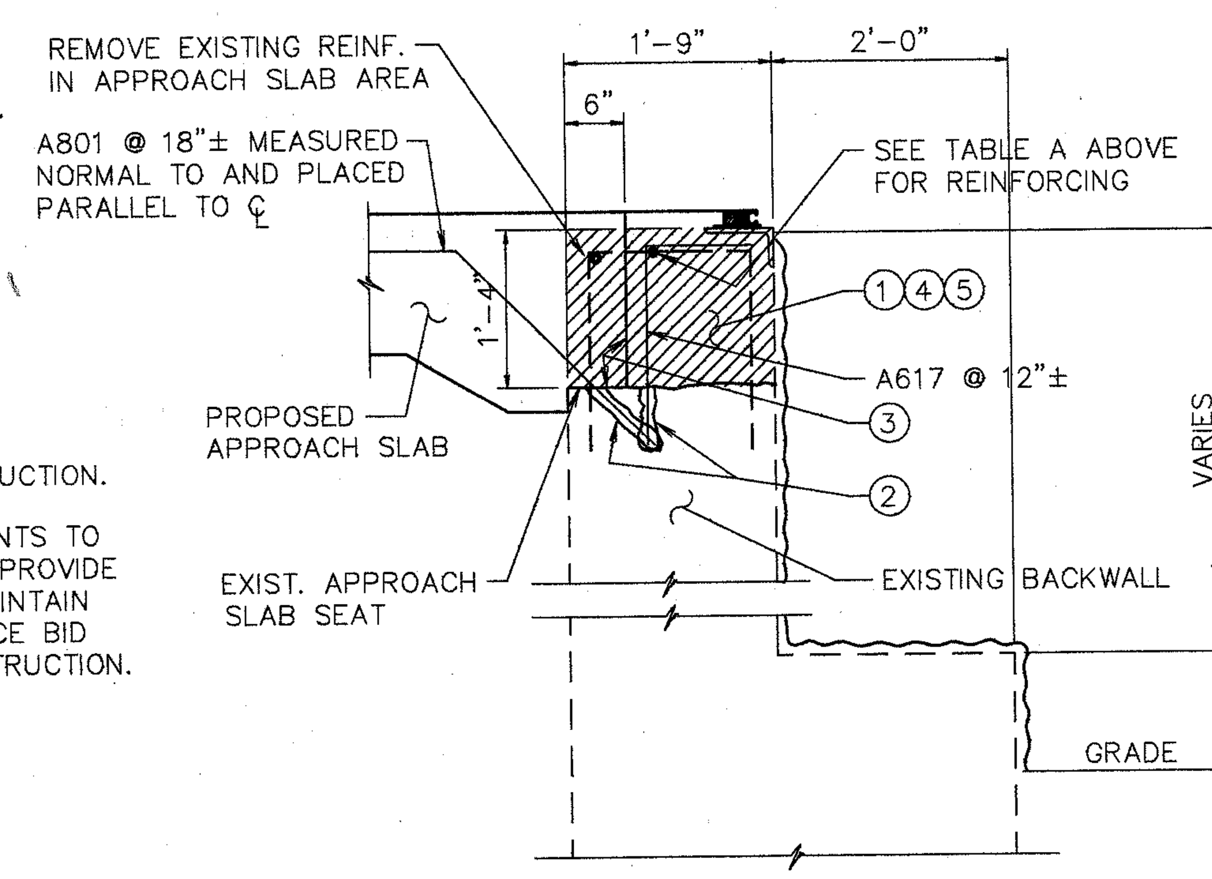
NOTES FOR SECTION Z-Z & Z1-Z1

1. EXISTING REINFORCING STEEL TO REMAIN ~ REINFORCING STEEL DAMAGED TO BE REPLACED AT CONTRACTORS EXPENSE.
2. 1' MIN. EMBEDMENT (SEE DOWEL HOLE GENERAL NOTE) ITEM 510.
3. TYPE 'A' WATERPROOFING (PAYMENT INCLUDED IN THE PRICE BID FOR APPROACH SLAB).
4. CLASS 'C' CONCRETE, ABUTMENT RECONSTRUCTION.
5. PROVIDE CONTRACTION AND EXPANSION JOINTS TO MATCH THOSE IN EXISTING BACKWALL AND PROVIDE CONSTRUCTION JOINTS AS REQUIRED TO MAINTAIN TRAFFIC. PAYMENT TO BE INCLUDED IN PRICE BID FOR ITEM 511 CLASS C CONCRETE RECONSTRUCTION.

EXISTING CONCRETE TO BE REMOVED INCLUDE IN ITEM 202 FOR PAYMENT.

SURFACE TO BE SEALED UNDER ITEM SPECIAL- 'SEALING OF CONCRETE SURFACE, EPOXY'.

TABLE A	RAMP ABUT. B		REAR ABUT. A		FORWARD ABUT.	
	L	R	L	R	L	R
SOUTH BOUND	–	–	A579	A576	A579	A578
NORTH BOUND	A577	A580	A576	A579	A576	A578



SECTION Z-Z

NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO MODIFYING THE EXPANSION JOINT.
2. THE PRICE BID FOR ITEM 516-'STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS', SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY OTHER INCIDENTIAL ITEMS, AS DETAILED. REMOVAL OF CURB OR PARAPET AS SHOWN SHALL BE INCLUDED UNDER ITEM 202-'PORTIONS OF STRUCTURE REMOVED.
3. FOR DETAILS NOT SHOWN REFER TO DRAWING EXJ-4-87 SHEETS 3 AND 4.
4. STRIP SEAL TO BE INSTALLED IN ONE CONTINUOUS PIECE (NO OPEN JOINTS).
5. PROVIDE TEMPORARY SUPPORT FOR END DAM DURING CONSTRUCTION. REMOVE TEMPORARY SUPPORT AS SOON AS CONCRETE HAS SET, PREFERABLY WITHIN TWO HOURS AFTER PLACING TO AVOID DAMAGE DUE TO EXPANSION AND CONTRACTION OF SUPERSTRUCTURE.

WOOLPERT CONSULTANTS
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(513) 461-5660

12/16

MISCELLANEOUS DETAILS

BRIDGE NO. HAM-71-0154
OVER S.B. 471

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	1/11/94	

CALC. BY LATM DATE 9-23-92 / CHK'D BY DEM DATE 10-4-94	HAM-71-1.30/9.00	OHIO / F.H.W.A. REGION 5	291 / 401

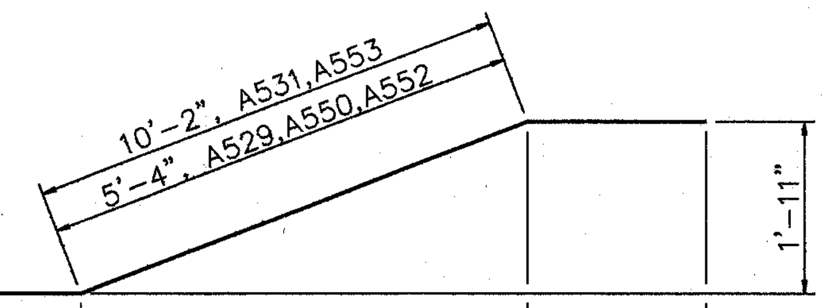
REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A501	STR.	436	30'-0"	13642
A502	STR.	2	15'-0"	31
A503	STR.	477	15'-8"	7794
A504	STR.	111	16'-8"	1929
A505	STR.	3	15'-6"	48
A506	STR.	15	14'-0"	219
A507	STR.	119	16'-10"	2089
A508	STR.	3	9'-0"	28
A509	STR.	4	7'-6"	31
A510	STR.	2	12'-0"	13
A511	STR.	78	17'-3"	1403
A512	STR.	4	23'-10"	99
A513	STR.	3	22'-11"	72
A514	STR.	69	17'-1"	1229
A515	STR.	1	7'-10"	8
A516	STR.	4	10'-8"	45
A517	STR.	9	4'-10"	45
A518	STR.	2	18'-0"	38
A519	STR.	2	26'-8"	57
A520	STR.	2	26'-6"	55
A521	BNT. †	3	12'-8"	40
A522	BNT.	2	17'-10"	37
A523	BNT.	2	17'-6"	37
A524	BNT.	2	16'-4"	34
A525	STR.	21	17'-8"	387
A526	BNT. †	3	24'-10"	78
A527	STR.	7	8'-0"	58
A528	STR.	20	4'-0"	100
A529	BNT.	4	9'-4"	39
A530	STR.	4	22'-10"	95
A531	BNT.	4	14'-2"	59
A532	STR.	2	5'-0"	10
A533	STR.	4	19'-10"	83
A534	STR.	6	18'-6"	116
A535	STR.	2	9'-8"	20
A536	STR.	2	24'-8"	51
A537	STR.	8	25'-10"	216
A538	STR.	12	5'-2"	65

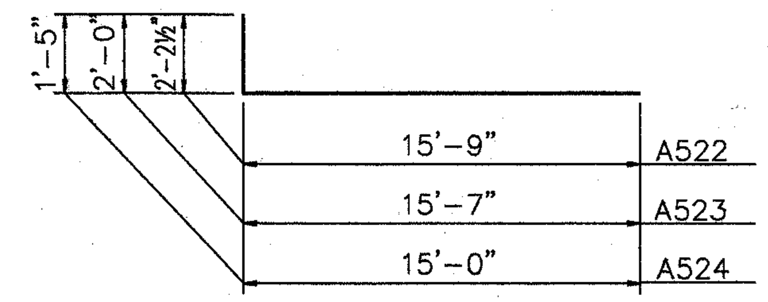
MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A539	STR.	28	5'-5"	158
A540	STR.	288	6'-8"	2003
A541	STR.	10	6'-10"	71
A542	STR.	226	7'-2"	1689
A543	STR.	7	7'-8"	56
A544	STR.	14	8'-3"	120
A545	STR.	7	9'-9"	71
A546	STR.	7	10'-10"	79
A547	STR.	11	11'-8"	134
A548	STR.	19	13'-3"	263
A549	STR.	21	14'-8"	321
A550	BNT.	3	15'-7"	49
A551	STR.	3	5'-7"	18
A552	BNT.	3	11'-10"	37
A553	BNT.	3	15'-8"	49
A554	STR.	13	14'-6"	197
A555	STR.	3	13'-8"	43
A556	STR.	7	8'-10"	64
A557	STR.	7	1'-11"	14
A558	STR.	13	3'-8"	50
A559	STR.	7	5'-4"	39
A560	BNT.	3	10'-8"	38
A561	BNT.	3	13'-10"	43
A562	BNT.	4	3'-3"	14
A563	STR.	42	1'-3"	55
A564	BNT.	8	4'-8"	39
A565	STR.	8	3'-0"	25
A566	STR.	4	16'-0"	67
* A567	STR.	70	2'-0"	146
A568	STR.	5	12'-7"	66
A569	STR.	3	9'-6"	30
A570	STR.	3	4'-4"	14
A571	STR.	3	3'-11"	12
A572	STR.	3	4'-2"	13
A573	STR.	3	5'-11"	19
A574	STR.	3	7'-11"	25
A575	STR.	6	6'-5"	40
A576	STR.	3	8'-0"	25

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A577	STR.	1	8'-6"	9
A577	STR.	2	10'-0"	21
A577	STR.	3	12'-0"	38
A580	STR.	1	15'-9"	16
REPLACEMENT STEEL				900
			SUB-TOTAL	37575

BENT BAR DETAILS



A529	2'-0"	5'-0"	2'-0"
A531	2'-0"	10'-0"	2'-0"
A550	6"	5'-0"	9'-10"
A552	4'-10"	5'-0"	1'-9"
A553	1'-2"	10'-0"	4'-5"



† BEND IN FIELD AS REQUIRED.

* BAR TO BE WELDED WITH FULL PENETRATION WELD. BAR SHALL BE GRADE 40.

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13/16

STEEL REINFORCEMENT LIST

BRIDGE NO. HAM-71-0154
OVER S.B. 471

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M11/11/94	

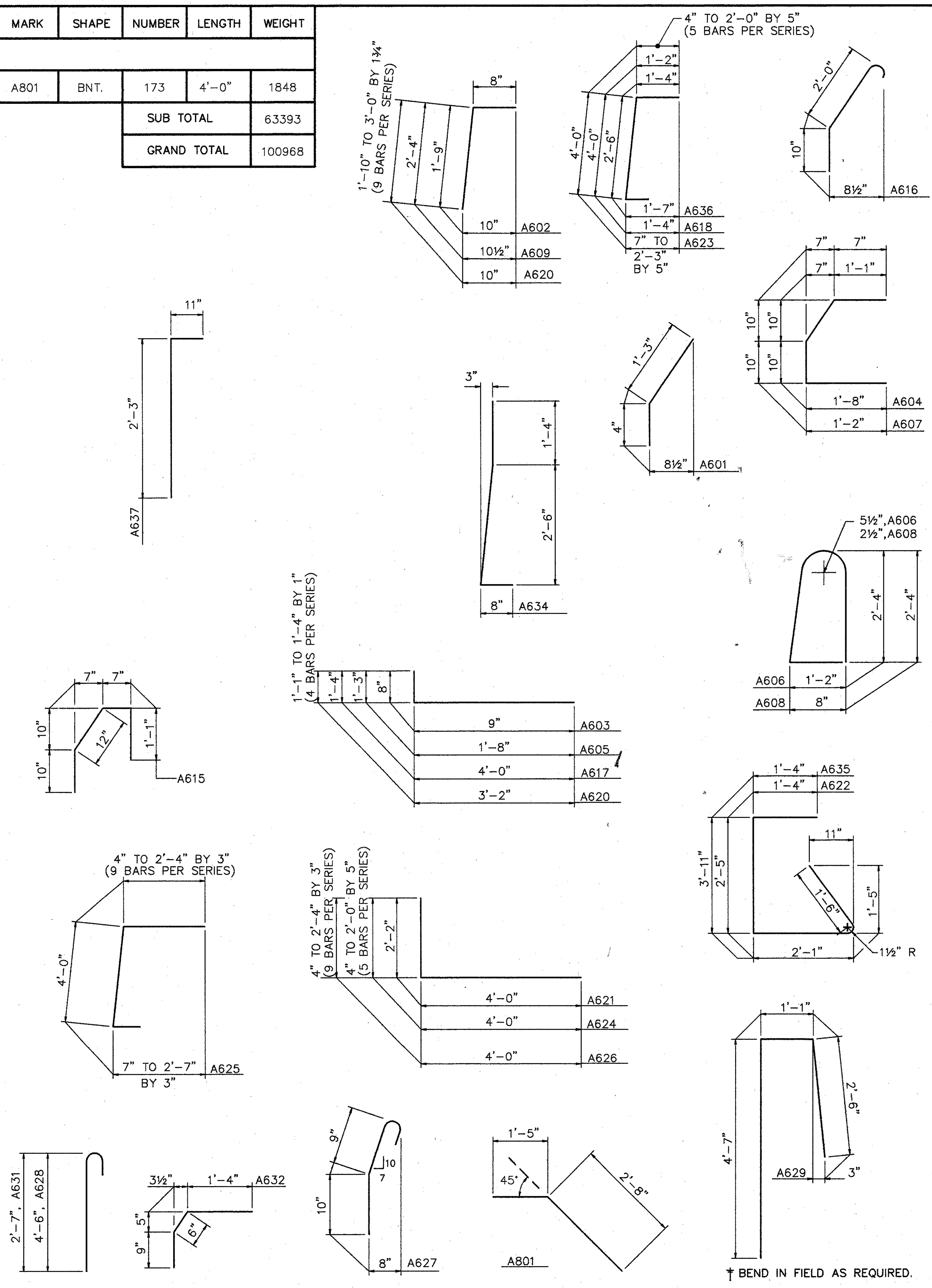
CALC BY L.A.T.M. DATE 9-23-94 / CHK'D BY DEM DATE 10-4-94	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	292 / 401

REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A601	BNT.	2176	1'-6"	4902
A602	BNT.	2160	2'-5"	7840
A603	BNT.	2173	1'-3"	4080
A604	BNT.	19	4'-3"	121
A605	BNT.	32	2'-9"	132
A606	BNT.	19	6'-2"	176
A607	BNT.	4	3'-3"	20
A608	BNT.	17	5'-1"	130
A609	BNT.	6	3'-9"	34
A610	STR.	2	7'-6"	23
A611	STR.	8	3'-3"	39
A612	STR.	20	4'-3"	128
A613	STR.	8	3'-6"	42
A614	STR.	1855	2'-9"	7662
A615	BNT.	869	3'-2"	4133
A616	BNT.	990	2'-9"	4312
A617	BNT.	891	5'-2"	6914
A618	BNT.	961	5'-7"	8059
A619	BNT.	9	2'-4" TO 3'-6"	39
A620	BNT.	5	4'-1" TO 4'-4"	25
A621	BNT.	55	6'-0"	496
A622	BNT.	4	7'-0"	42
A623	BNT.	10	4'-9" TO 6'-5"	84
A624	BNT.	10	4'-2" TO 5'-10"	75
A625	BNT.	18	4'-9" TO 6'-9"	155
A626	BNT.	18	4'-2" TO 6'-2"	140
A627	BNT.	30	1'-5"	64
A628	BNT.	8	4'-9"	57
A629	BNT.	4	7'-10"	47
A630	STR.	862	3'-9"	4855
A631	BNT.	1	2'-11"	4
A632	BNT.	1	2'-5"	4
A633	STR.	8	5'-4"	64
A634	BNT.	862	4'-4"	5610
A635	BNT.	28	8'-6"	357
A636	BNT.	8	4'-4"	52
A637	BNT.	74	3'-0"	333

BENT BAR DETAILS

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A801	BNT.	173	4'-0"	1848
		SUB TOTAL		63393
		GRAND TOTAL		100968



ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	L.S.	PORTIONS OF STRUCTURE REMOVED
202	23501	12700	S.Y.	WEARING COURSE REMOVED (ASPHALT), AS PER PLAN
509	15830	100673	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
510	12201	247	L.F.	DOWEL HOLES, AS PER PLAN
511	34450	14	C.Y.	CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
511	34400	8	C.Y.	CLASS S CONCRETE, SUPERSTRUCTURE (RECONSTRUCTION)
511	34450	483	C.Y.	CLASS S CONCRETE, MISC.: CONCRETE PARAPET RAILING, AS PER PLAN
511	45700	21	C.Y.	CLASS C CONCRETE, ABUTMENT (RECONSTRUCTION)
SPECIAL	51267500	5725	S.Y.	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	1090	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
513	21000	17	EACH	TRIMMING OF BEAM END
514	27704	LUMP	L.S.	FIELD PAINTING, MISC: FIELD PAINTING EXISTING STEEL, EEU *
516	10901	115	L.F.	ELASTOMERIC COMPRESSION SEAL, AS PER PLAN
516	11210	494	L.F.	STRUCTURAL EXP. JT., INCLUDING ELASTOMERIC STRIP SEALS
516	14600	195	L.F.	MISC. STRUCTURAL JOINT OR JOINT SEALER: 2"x4" SEALER, AS PER PLAN
516	45304	80	EACH	REFURBISH BEARING DEVICE
517	76201	2520	L.F.	RAILING FACED, AS PER PLAN (32" HIGH)
516	45307	4	EACH	REFURBISH BEARING DEVICE, AS PER PLAN
518	12800	13	EACH	SCUPPER MODIFICATION
518	63300	LUMP SUM	L.S.	STRUCTURE DRAINAGE, MISC: MODIFY DRAINAGE PIPING
519	11100	345	S.F.	PATCHING CONCRETE STRUCTURE
SPECIAL	51912600	160	L.F.	CONCRETE REPAIR BY EPOXY INJECTION *
625				FOR LIGHTING SUMMARY SEE LIGHTING PLANS
845	40210	14573	S.Y.	LATEX MODIFIED CONCRETE MISC. OVERLAY (1¾" THICK) ON EXISTING DECK
845	11000	224	C.Y.	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)
845	30000	1	C.Y.	FULL DEPTH REPAIR
SPECIAL	53000400	166	EACH	STRUCTURE MISC.: LATERAL BRACING GUSSET PLATE RETROFIT(INTERMEDIATE).
516	14600	500	L.F.	SEAL JOINT BETWEEN ABUTMENT AND CONCRETE SLOPE PROTECTION
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
601	21100	10	S.F.	REPAIR CONCRETE SLOPE PROTECTION
513	15501	200	LBS.	STRUCTURAL STEEL (MISC. AND CASTINGS), AS PER PLAN

* SEE PROPOSAL NOTE

PROPOSED WORK

1. SCARIFY EXISTING DECK ¼", AND REMOVE DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER.
2. CLEAN AND PAINT ALL REAR ABUTMENT, PIER 3E AND PIER6 BEARINGS. REFURBISH ALL FORWARD ABUTMENT BEARINGS.
3. MODIFY PARAPETS ON BRIDGE AND ABUTMENT AS PER PLAN (INCLUDING MEDIAN).
4. PLACE 1¾" THICK LATEX MODIFIED CONCRETE ON DECK.
5. REFURBISH DRAINAGE PIPING.
6. SEAL JOINTS, AS NOTED.
7. SEAL TRANSVERSE EXPANSION JOINTS WITH STRIP SEALS. SEAL LONGITUDINAL EXPANSION JOINTS WHERE SPECIFIED WITH COMPRESSION SEALS.
8. FILL BACKWALL CRACKS WITH EPOXY. RECONSTRUCT ABUTMENT BACKWALLS ABOVE APPROACH SLAB SEAT.
9. TRIM BEAM ENDS.
10. RETROFIT LATERAL BRACING. FOR DETAILS SEE SHEETS 401A/401 THRU 401D/401.
11. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION AND ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTENANCE OF TRAFFIC PLANS. MAINTENANCE OF TRAFFIC PLAN REQUIRES CONSTRUCTION PHASING LIMITS AT LANE CENTERLINES. DUE TO THESE LIMITS, OVERLAY AND BACKWALL CONSTRUCTION MAY REQUIRE SPECIAL ATTENTION.
12. OTHER WORK AS DESCRIBED IN THESE PLANS.

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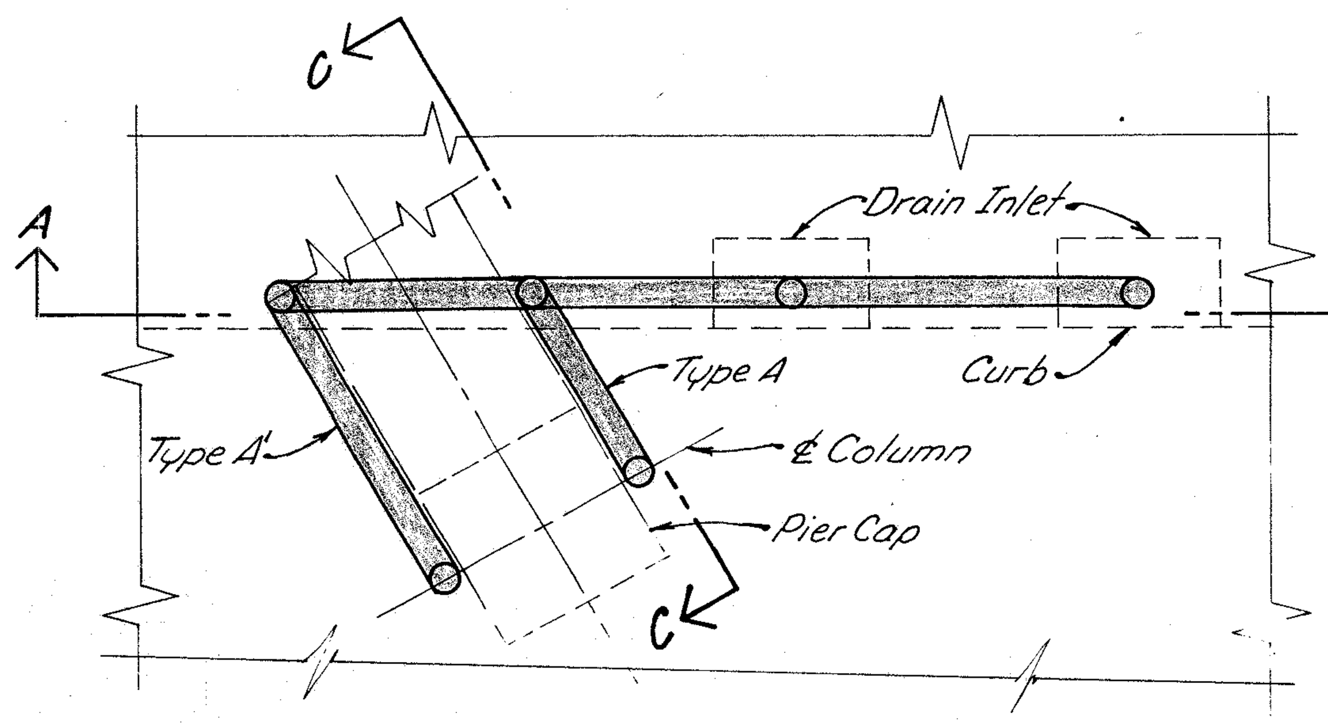
14/16

QUANTITIES AND GENERAL NOTES

BRIDGE NO. HAM-71-0154
OVER S.B. 471

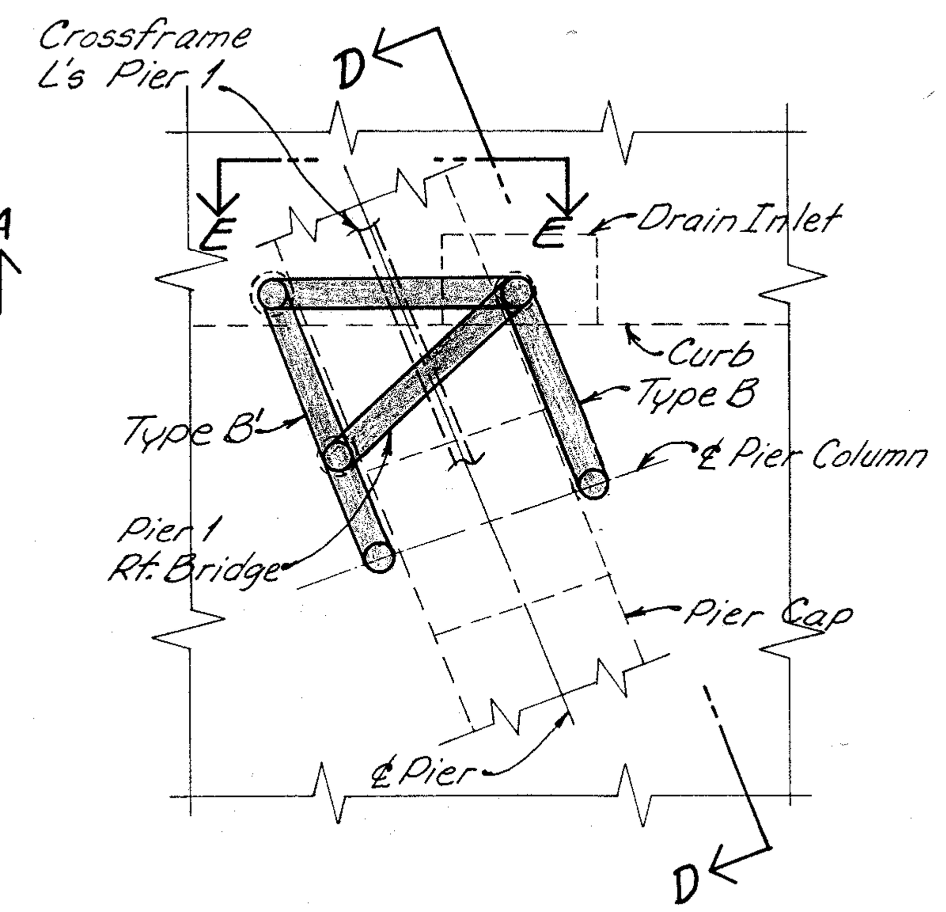
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M	11/11/94	

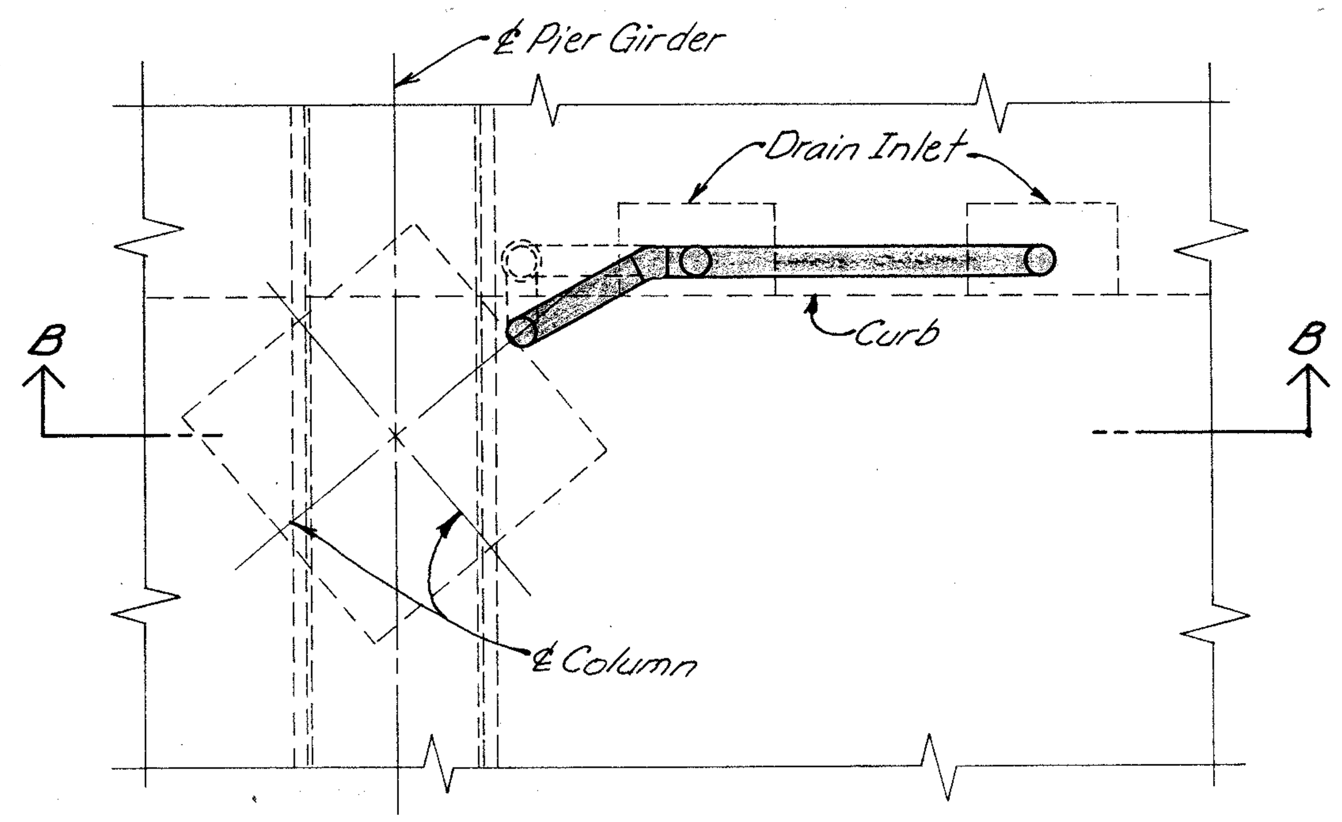


PLAN FOR TYPE A OR A'

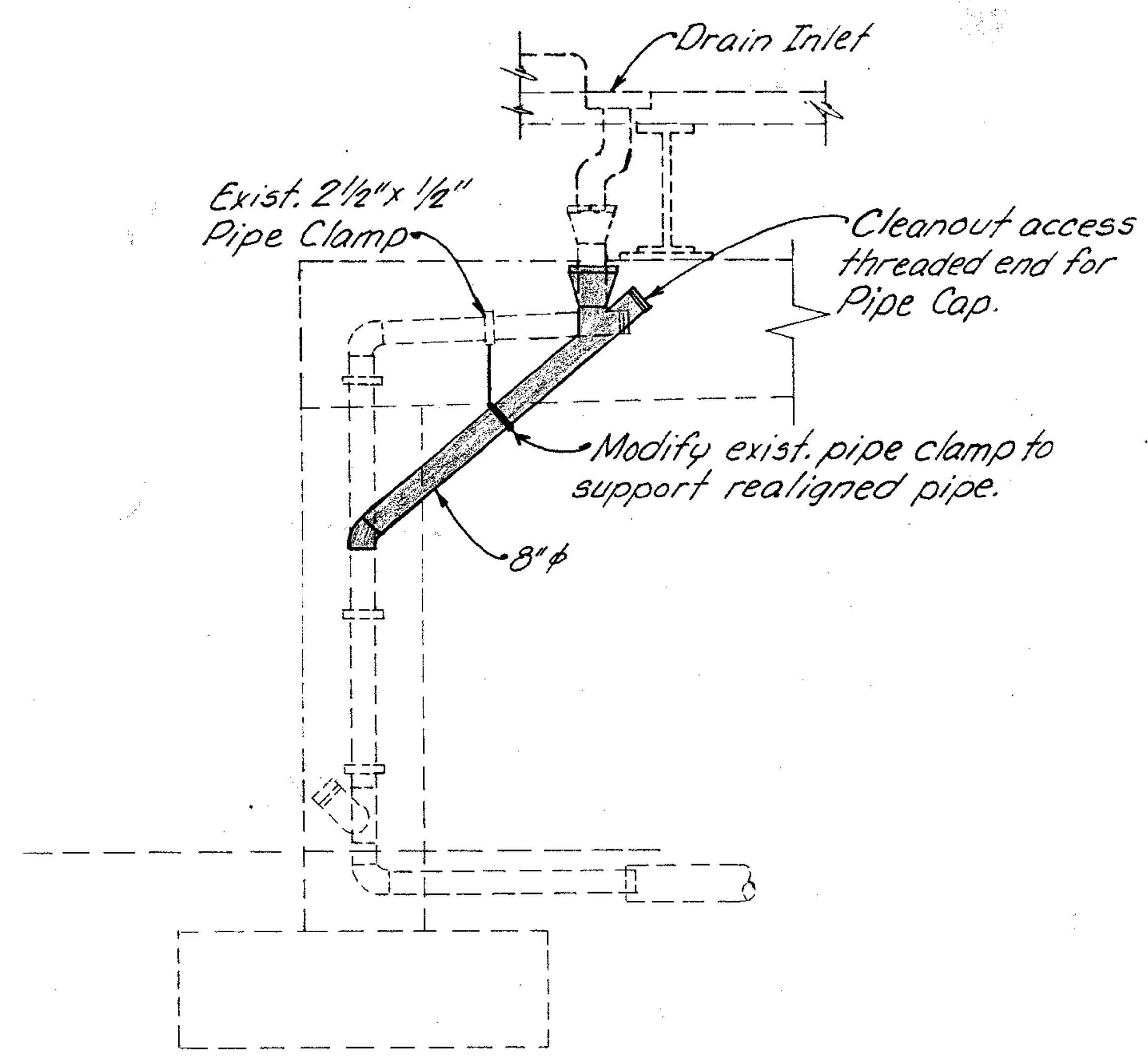
NOTE: Type of plan to be used depends on Location of Inlet with respect to pier. (See Site Plan)



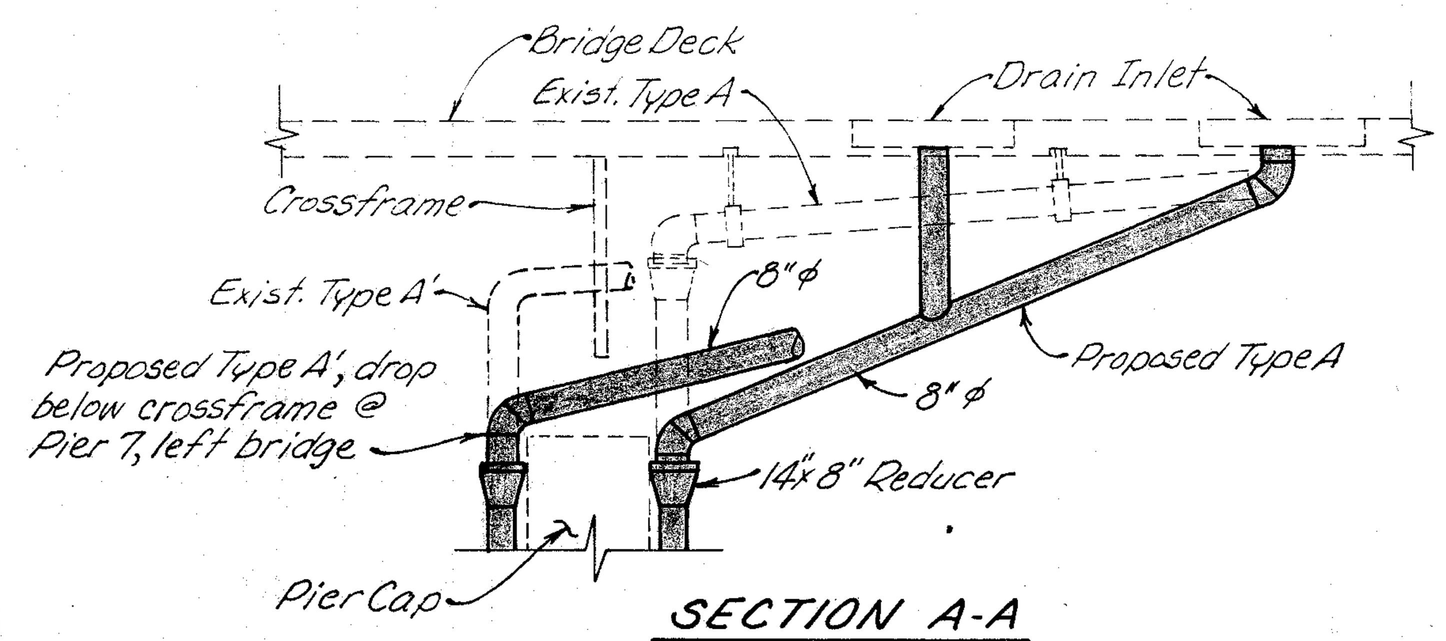
PLAN FOR TYPE B OR B'



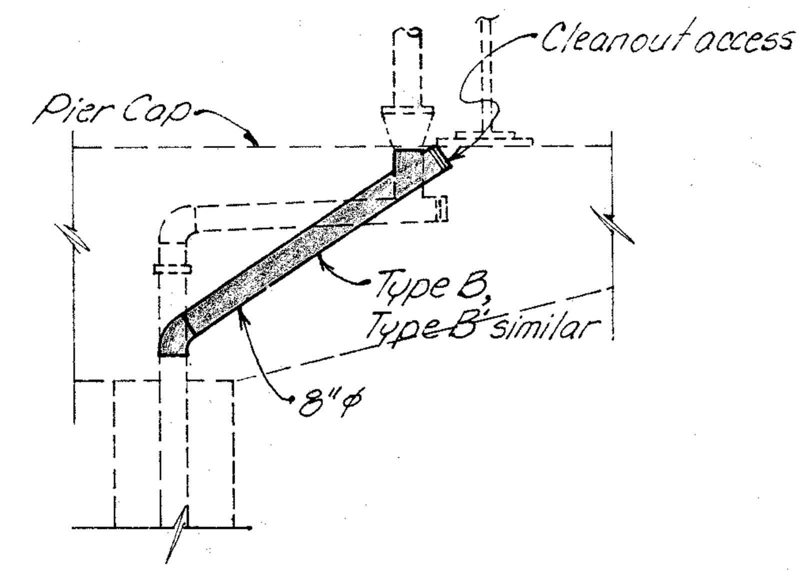
PLAN FOR TYPE C



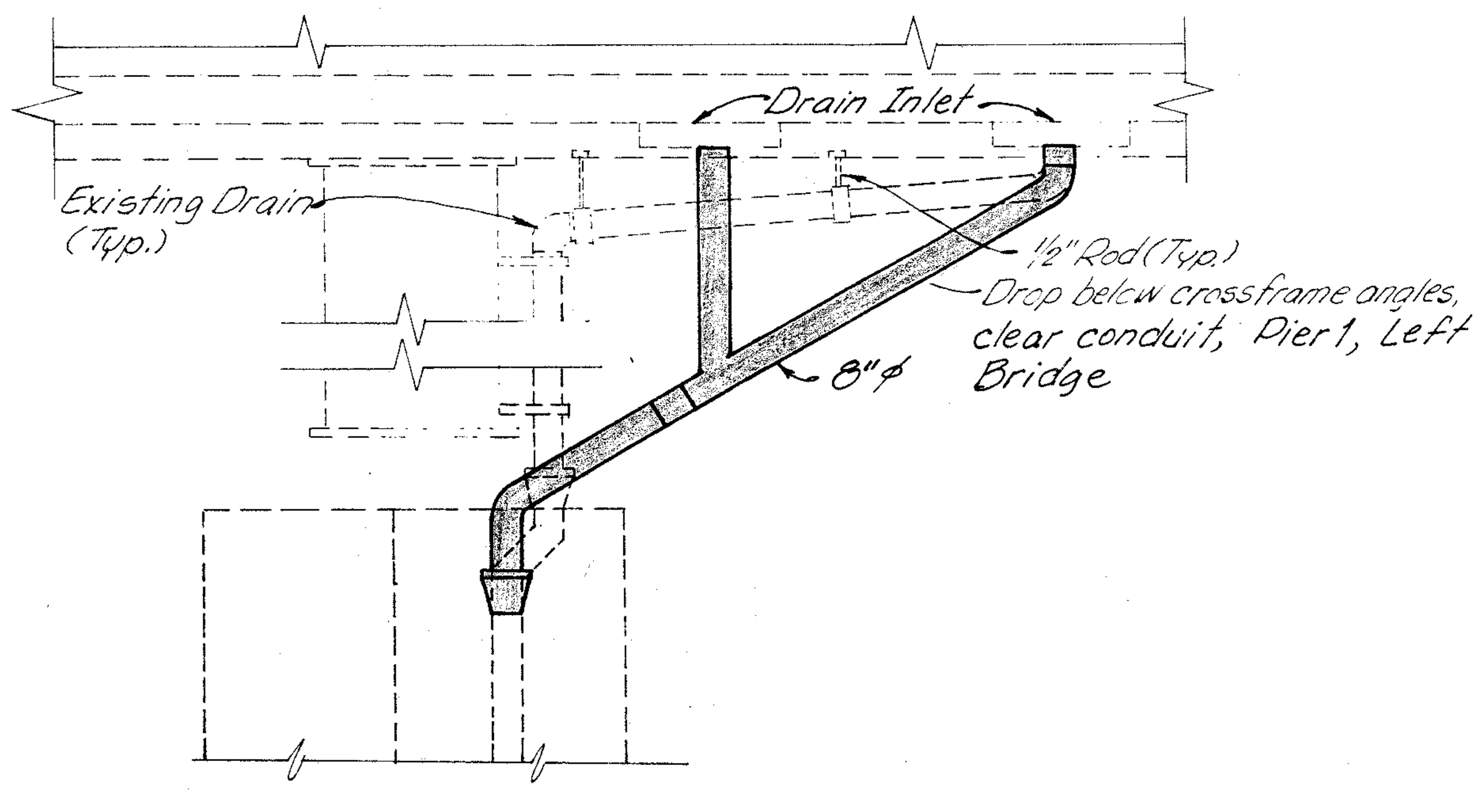
SECTION C-C
(Type A)
(Type A' similar)



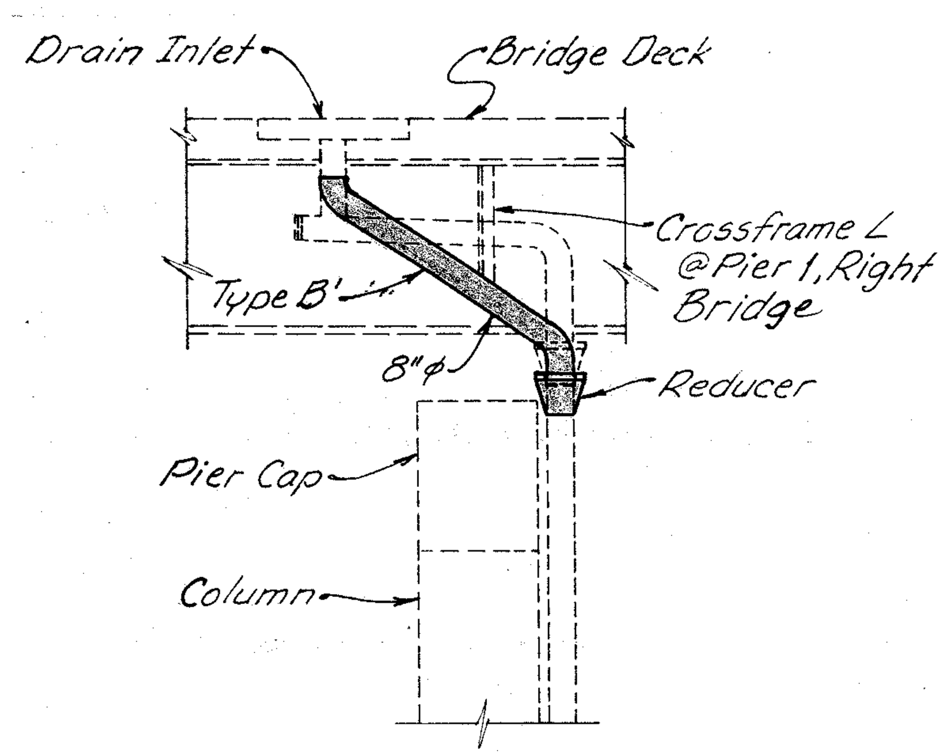
SECTION A-A



SECTION D-D



SECTION B-B



SECTION E-E

1. For drainage piping requirements see General Notes sht. 273/401

2. Approximate № of Linear Feet of proposed 8"ϕ pipe (including specials) = 360'

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15 / 16

DRAINAGE DETAILS

BRIDGE NO. HAM-71-0154
OVER I-471

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.E.M.	L.A.R.		D.E.M.	P.W.G.	11/11/94	

F.H.W.A. REGION	STATE	PROJECT		
5	OHIO			

294 / 401

HAM-71-1.30/9.0

PLAN "TYPE D" DRAIN INLET AT SOUTH ABUTMENT A (N.B.)

PLAN "TYPE E" DRAIN INLET AT SOUTH ABUTMENT A (S.B.)

PLAN "TYPE F" DRAIN INLET AT SOUTH ABUTMENT B

PLAN "TYPE G" DRAIN INLET AT FLOOR BEAMS

SECTION D-D

SECTION E-E

SECTION F-F

SECTION G-G

SECTION H-H

Note: Contractor may use eccentric reducer to provide clearance with column (Typ.)

For Notes see sht. 15/16

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16/16

DRAINAGE DETAILS

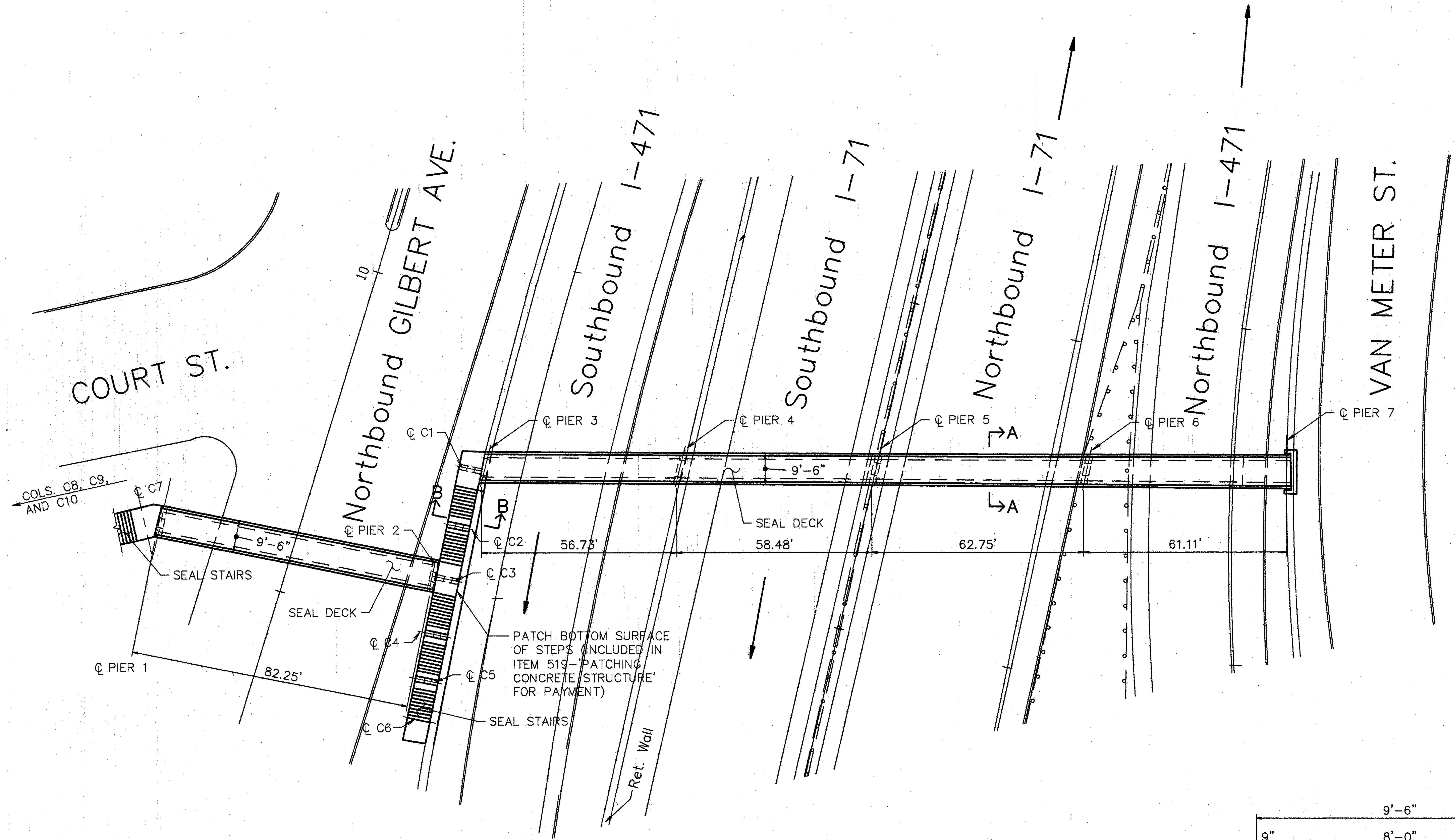
BRIDGE NO. HAM-71-0154
OVER I-471

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.E.M.	L.A.P.		D.E.M.	P.W.G.	11/11/94	

ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
SPECIAL	51267500	792	S.Y.	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	246	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
514	27704	LUMP	L.S.	FIELD PAINTING, MISC: EXISTING STEEL, EEU *
519	11100	33	S.F.	PATCHING CONCRETE STRUCTURE
516	45304	4	EACH	REFURBISH BEARING DEVICE
518	63300	LUMP	L.S	SCUPPER AND DRAINAGE PIPE CLEANOUT

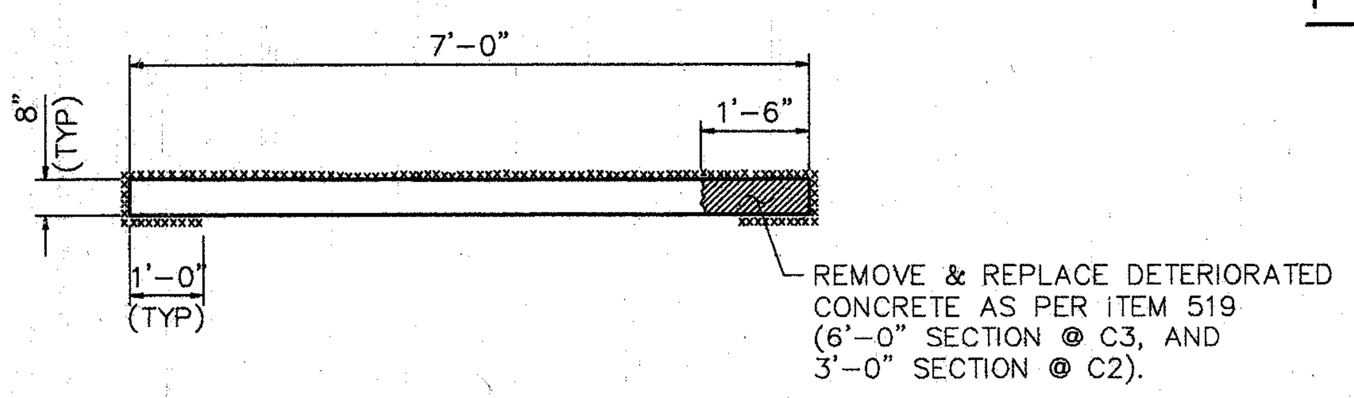
* SEE PROPOSAL NOTE



NOTE:

1. SEAL PIERS. COLUMNS C2, C4, C5, C8, & C9 TO BE SEALED UNDER ITEM SPECIAL−'SEALING OF CONCRETE SURFACES'. ITEM SPECIAL−'SEALING OF CONCRETE SURFACES, EPOXY', PROVIDES SEALING OF C7 (LEAVE SOUTH FACE OF COL. UNSEALED), C3 (SOUTH UNSEALED), AND C1 (NORTH UNSEALED), AND PIER 1 (SOUTH UNSEALED), PIER 2 (NORTH UNSEALED), PIER 3 (SOUTH UNSEALED), PIERS 4, 5, & 6 (TOPS UNSEALED). COLS. C6, & C10 ARE EXCLUDED.

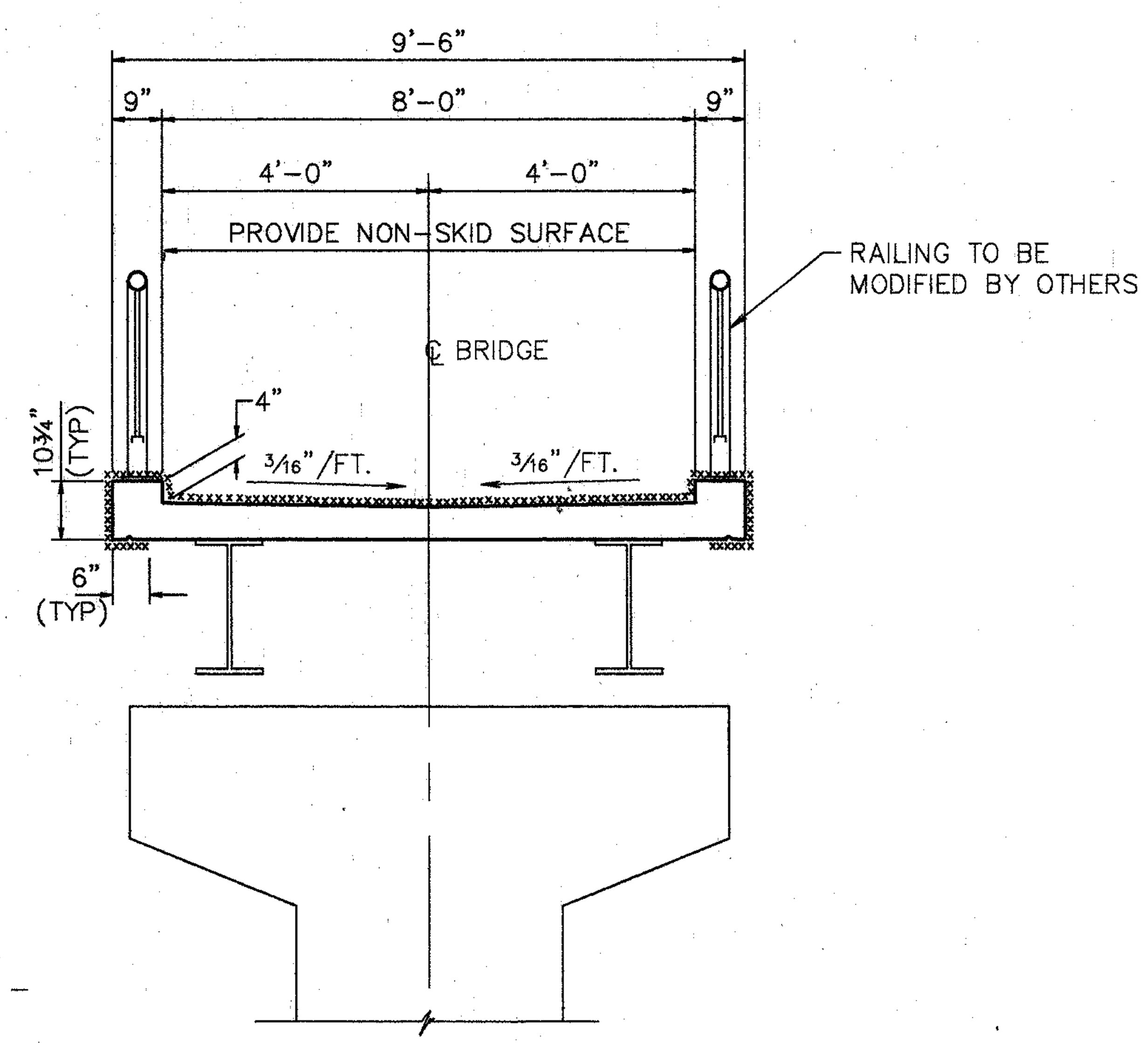
PLAN



SECTION B−B

NOTE:
SEALING IS TYPICAL FOR ALL STAIRS, AND LANDINGS NOT ON GRADE.

XXX − SURFACES TO BE SEALED UNDER ITEM SPECIAL − SEALING OF CONCRETE SURFACES. PROVIDE A NON−SKID SURFACE WHERE SHOWN.



SECTION A−A

PROPOSED WORK

1. SEAL BRIDGE DECK, STAIRS, & PIERS.
2. PATCH BOTTOM SURFACE OF STEPS.
3. ~~REFURBISH~~ ABUTMENT BEARINGS.
4. TRAFFIC UNDER PEDESTRIAN BRIDGE SHALL BE MAINTAINED AT ALL TIMES. FOR NOTES SEE MAINTENANCE OF TRAFFIC PLANS. PEDESTRIAN TRAFFIC SHALL BE MAINTAINED AT ALL TIMES.
5. OTHER WORK AS DESCRIBED IN THESE PLANS.

EXISTING STRUCTURE

TYPE: 4 SPAN CONTINUOUS ROLLED BEAM WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE. SINGLE SPAN PLATE GIRDER WITH REINFORCED CONCRETE DECK AND SUBSTRUCTURE.

SPANS: 56.73', 58.48', 62.75', 61.11' (ROLLED BEAM STRUCTURE)
82.25' (PLATE GIRDER STRUCTURE)

WIDTH: 8'−0" CLEAR BETWEEN CURBS

LOADING: 85lb./SQ. FT. (UNIFORM)

SKEW: AS SHOWN ON PLAN

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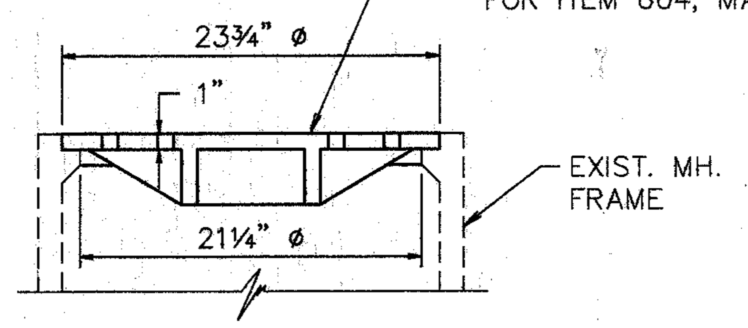
GENERAL PLAN AND DETAILS

BRIDGE NO. HAM−71−0176
OVER I−71

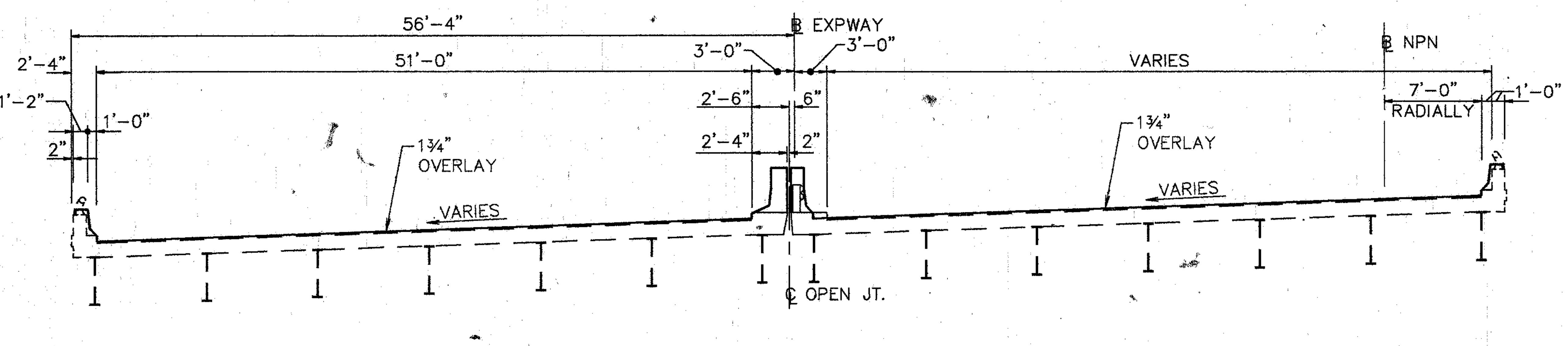
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	

PROVIDE HEAVY DUTY LID TO FIT EXIST. FRAME. CAT. No. R-1664 AS MANUFACTURED BY NEENAH FOUNDRY CO. OR EQUAL. PAYMENT FOR REPLACEMENT OF MANHOLE COVER SHALL BE PER EACH FOR ITEM 604, MANHOLE COVER



SECTION
(EXISTING MANHOLE FRAME)



TYP. BRIDGE SECTION

NOTES:

1. SEAL PARAPETS, BACKWALLS AND PIERS. SEAL ALL OF PIER EXCEPT TOP OF PIER CAP.
2. SEE JUNCTION BOX EXTENSION DETAIL, GEN. DTL. SHT. 273/401 FOR BARRIER RETROFIT AT JUNCTION BOXES. REFER TO LIGHTING DETAILS FOR TYPE AND LOCATION OF BOXES AND LUMINAIRES.
3. REFURBISH DRAINAGE PIPING. SEE SHT. 8&9/9

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL PLATE GIRDER WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: 77'-0", 118'-0", 77'-0" C-C BRG'S
ROADWAY: 51'-0" F/F CURBS WITH 1'-0" CURB AND 3'-0"MEDIAN
SKEW: VARIES
LOADING FREQUENCY: C.F.=2000 (57) ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: COMPOUND CURVES
SUPERELEVATION: VARIES

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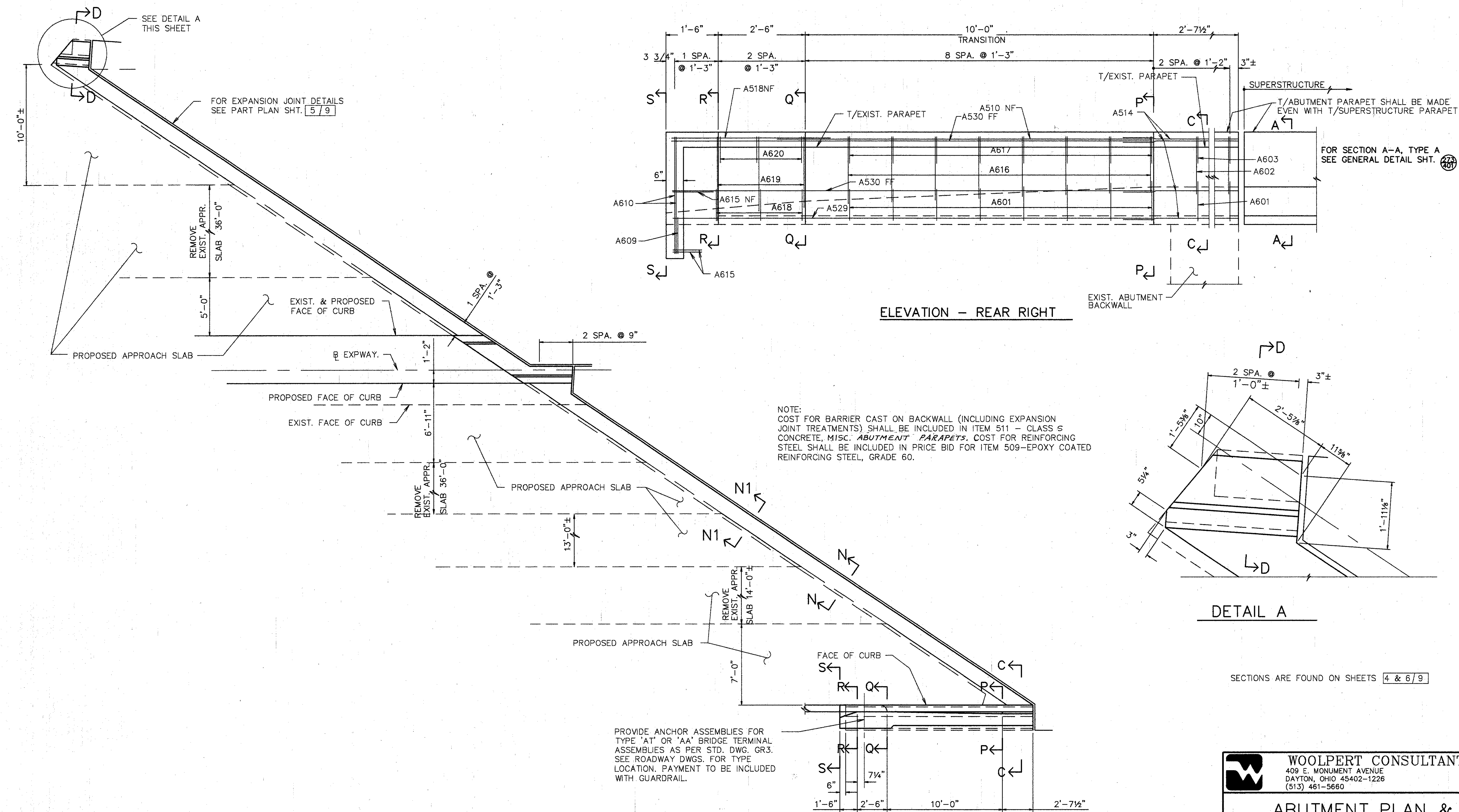
1/9

GENERAL PLAN

BRIDGE NO. HAM-71-0192 L/R
OVER RAMP "GD"

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	



NOTE:
COST FOR BARRIER CAST ON BACKWALL (INCLUDING EXPANSION JOINT TREATMENTS) SHALL BE INCLUDED IN ITEM 511 - CLASS S CONCRETE, MISC. *ABUTMENT PARAPETS*. COST FOR REINFORCING STEEL SHALL BE INCLUDED IN PRICE BID FOR ITEM 509-EPOXY COATED REINFORCING STEEL, GRADE 60.

SECTIONS ARE FOUND ON SHEETS 4 & 6/9

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2/9

ABUTMENT PLAN & PARAPET ELEVATIONS

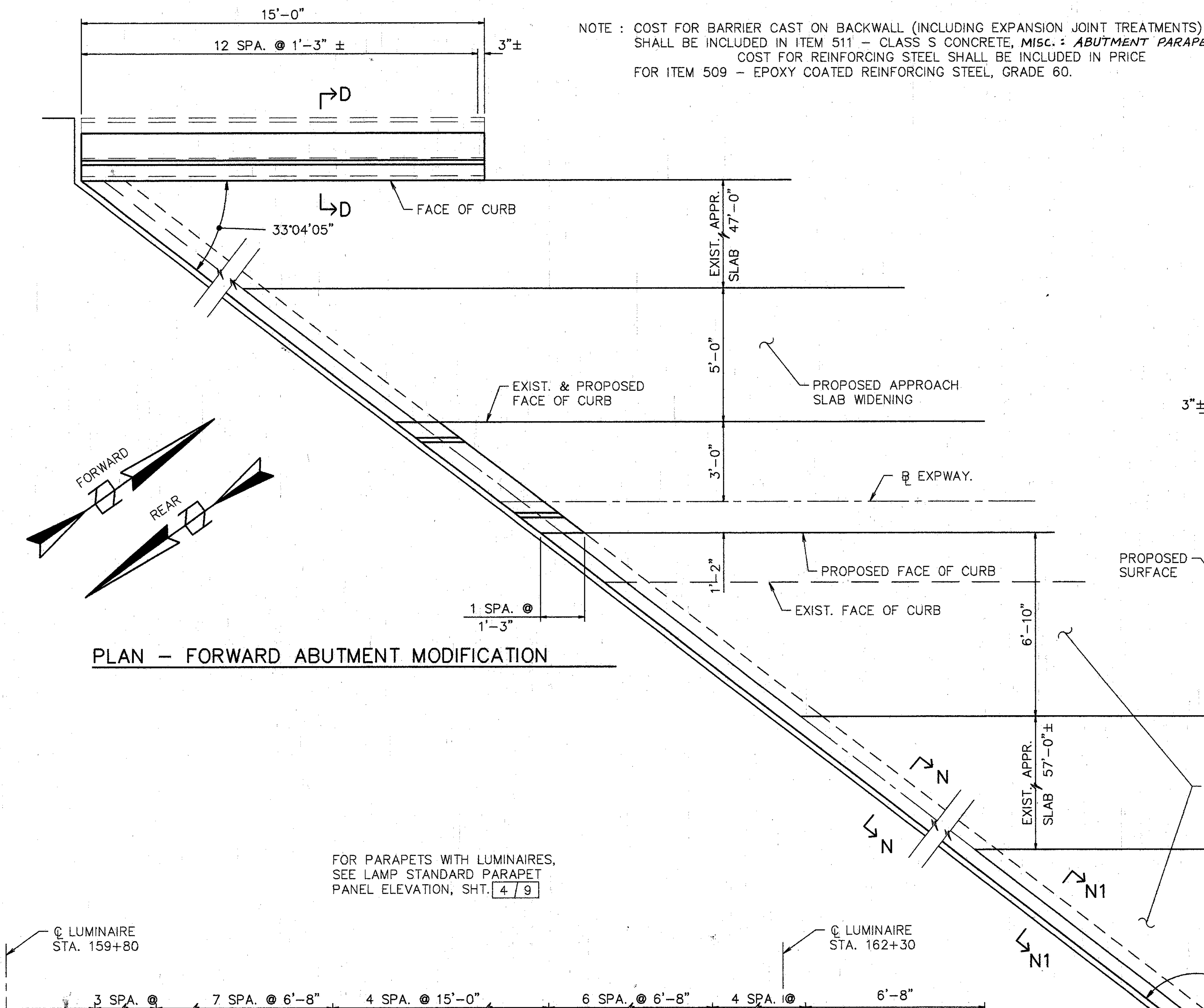
BRIDGE NO. HAM-71-0192 L/R
OVER RAMP "GD"

HAMILTON COUNTY

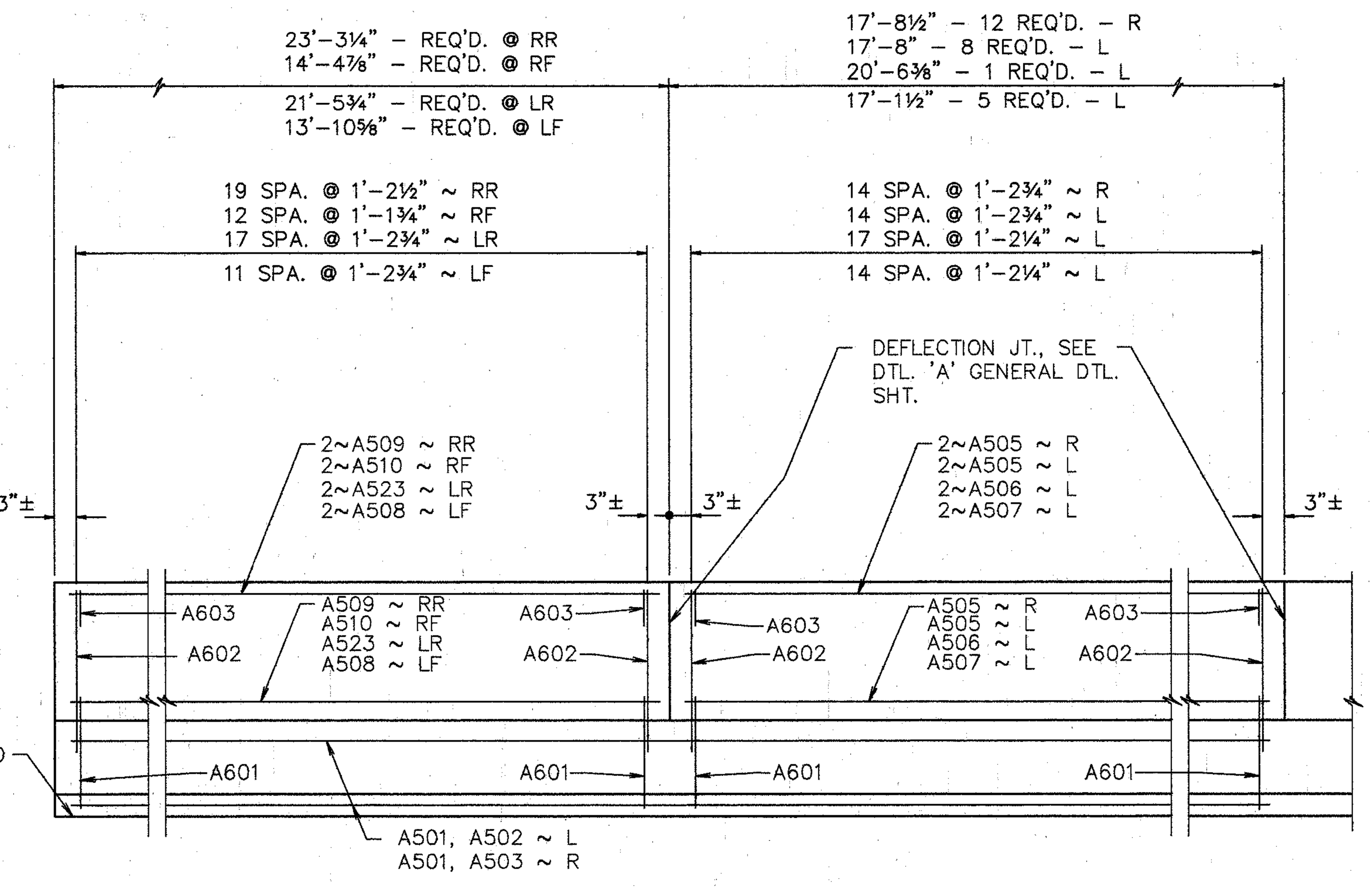
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	

CALC. BY L.A.T.M. DATE 4-25-94 / CHK'D. BY DEM DATE 10-4-94	HAM-71-1.30/9.00	OHIO	F.H.W.A. REGION 5	298 / 401

NOTE : COST FOR BARRIER CAST ON BACKWALL (INCLUDING EXPANSION JOINT TREATMENTS) SHALL BE INCLUDED IN ITEM 511 – CLASS S CONCRETE, *MISC.: ABUTMENT PARAPETS*. COST FOR REINFORCING STEEL SHALL BE INCLUDED IN PRICE FOR ITEM 509 – EPOXY COATED REINFORCING STEEL, GRADE 60.



PLAN – FORWARD ABUTMENT MODIFICATION

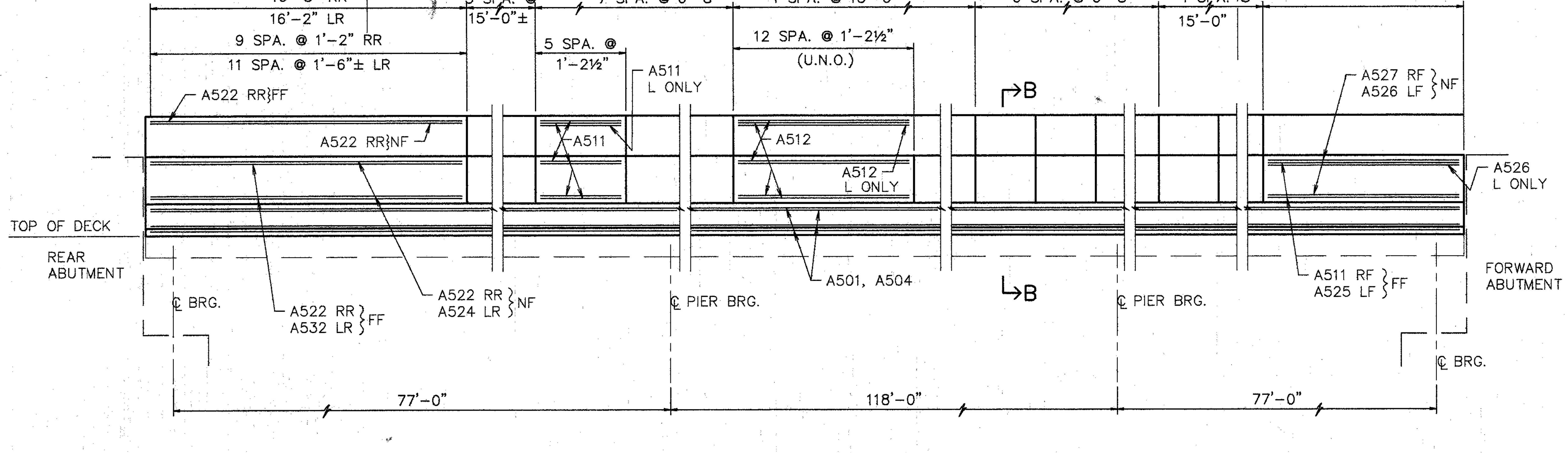


ELEVATION SUPERSTRUCTURE PARAPET

NOTES:
- RF DENOTES RIGHT FORWARD
- LF DENOTES LEFT FORWARD
- RR DENOTES RIGHT REAR
- LR DENOTES LEFT REAR
- NF DENOTES NEAR FACE
- FF DENOTES FAR FACE
- RM DENOTES REAR MEDIAN
- FM DENOTES FORWARD MEDIAN
- R DENOTES RIGHT SIDE
- L DENOTES LEFT SIDE
- M DENOTES MEDIAN

SECTIONS ARE FOUND ON SHEETS 4 & 6/9

FOR PARAPETS WITH LUMINAIRES, SEE LAMP STANDARD PARAPET PANEL ELEVATION, SHT. 4/9



MEDIAN PARAPET (BOTH SIDES; ELEV. OF RIGHT SHOWN, LEFT IS SIMILAR)
(MEASURED ALONG BACKFACE OF PARAPET)

NOTE: NF INDICATES ROAD SIDE FACE, FF INDICATES OUTSIDE FACE

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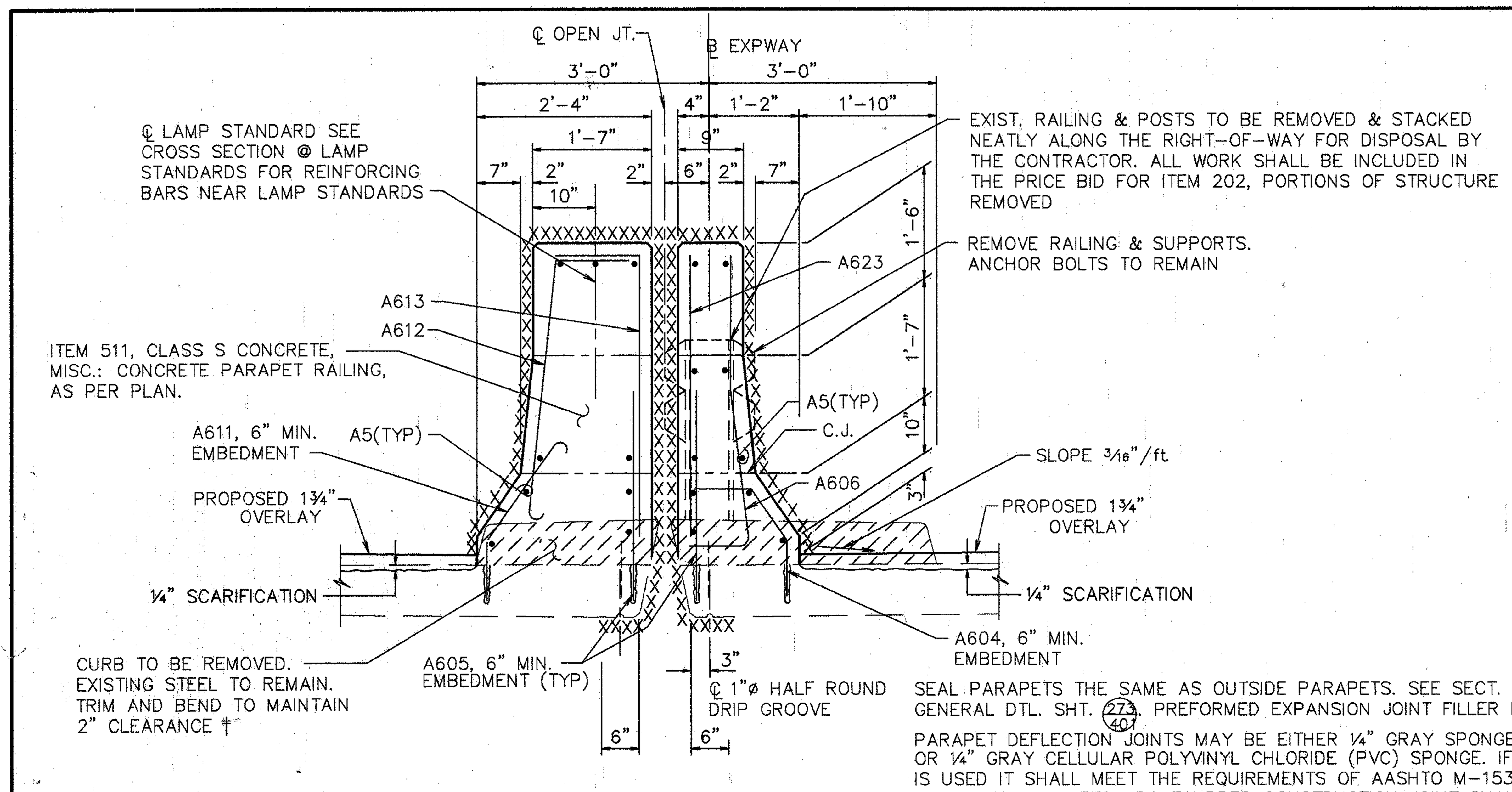
ABUTMENT PLAN & PARAPET ELEVATIONS

BRIDGE NO. HAM-71-0192 L/R
OVER RAMP "GD"

HAMILTON COUNTY

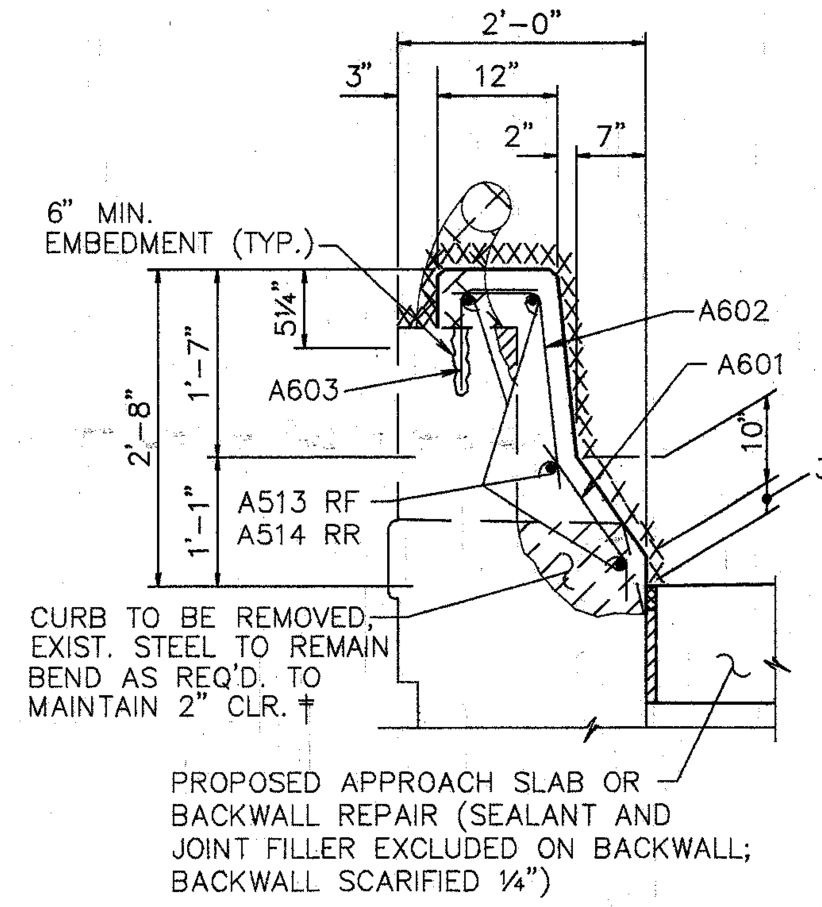
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	

Last Plot: MAY 15, 1991 @ 7:17 PM Last Revision By: RACH JUN. 9, 1992 @ 2:20 PM



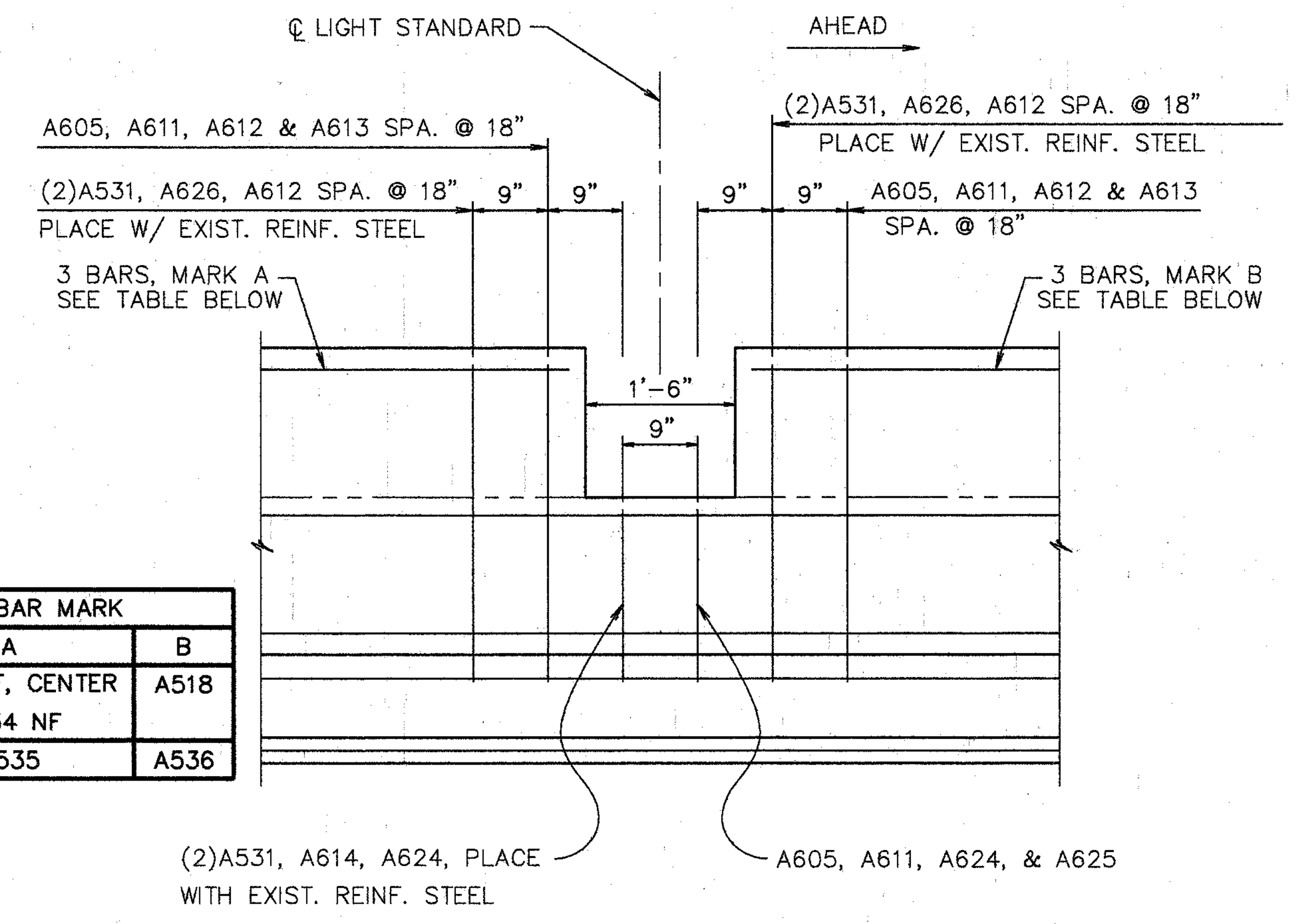
SECTION B-B

SEAL PARAPETS THE SAME AS OUTSIDE PARAPETS. SEE SECT. A-A, GENERAL DTL. SHT. 273/401. PREFORMED EXPANSION JOINT FILLER IN THE PARAPET DEFLECTION JOINTS MAY BE EITHER ¼" GRAY SPONGE RUBBER OR ¼" GRAY CELLULAR POLYVINYL CHLORIDE (PVC) SPONGE. IF RUBBER IS USED IT SHALL MEET THE REQUIREMENTS OF AASHTO M-153. CONCRETE PARAPETS ABOVE UPPER CONSTRUCTION JOINT SHALL BE PLACED IN ALTERNATE SECTIONS BY THE USE OF BULK HEADS. CLOSING SECTIONS SHALL BE PLACED AFTER REMOVAL OF BULK HEADS AND AFTER PLACEMENT OF EXPANSION JOINT FILLER. EXPOSED EDGES OF THE FILLER SHALL BE FLUSH WITH THE SURFACE OF CONCRETE AND SHALL BE FREE OF MORTAR.

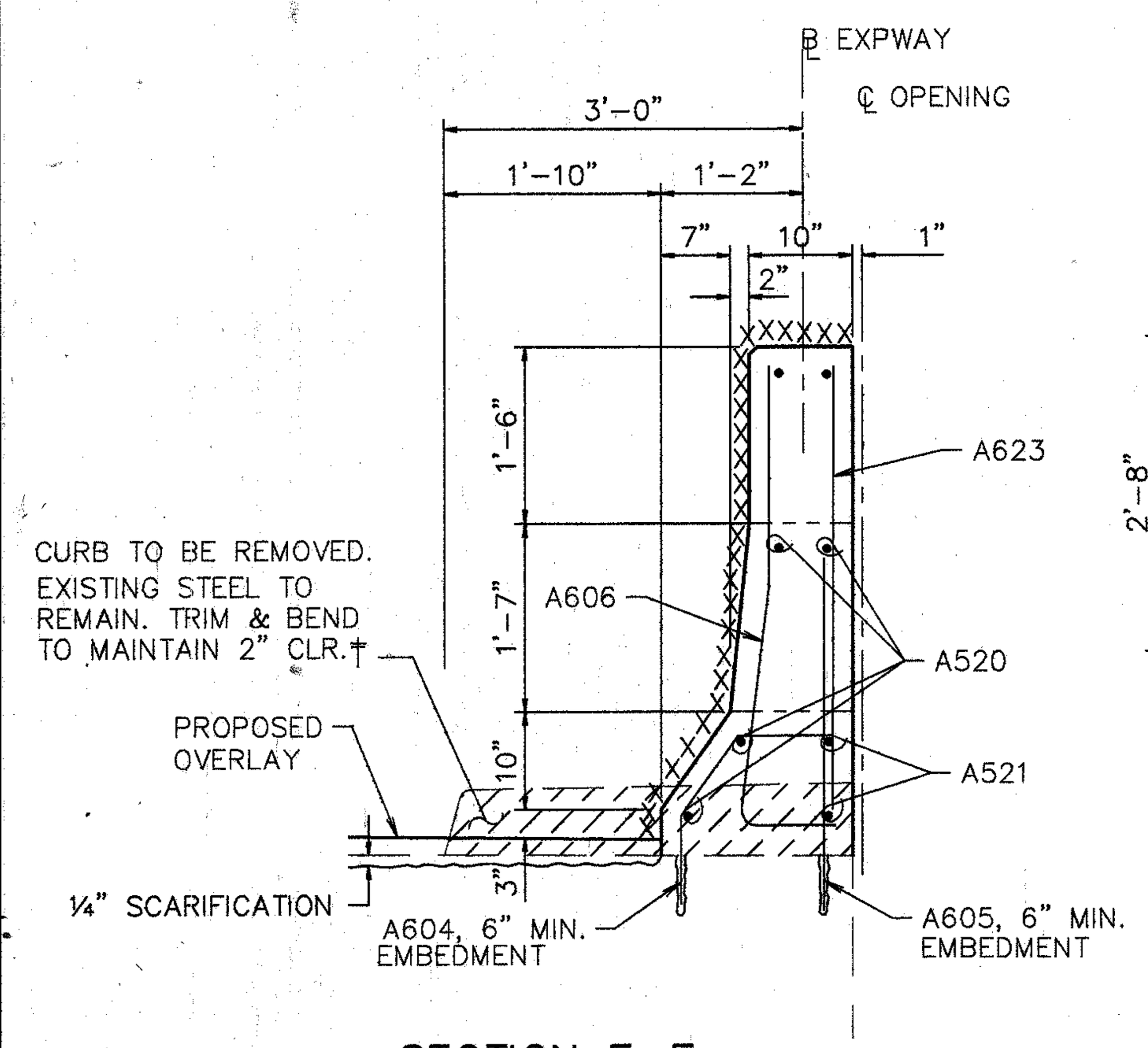


SECTION C-C

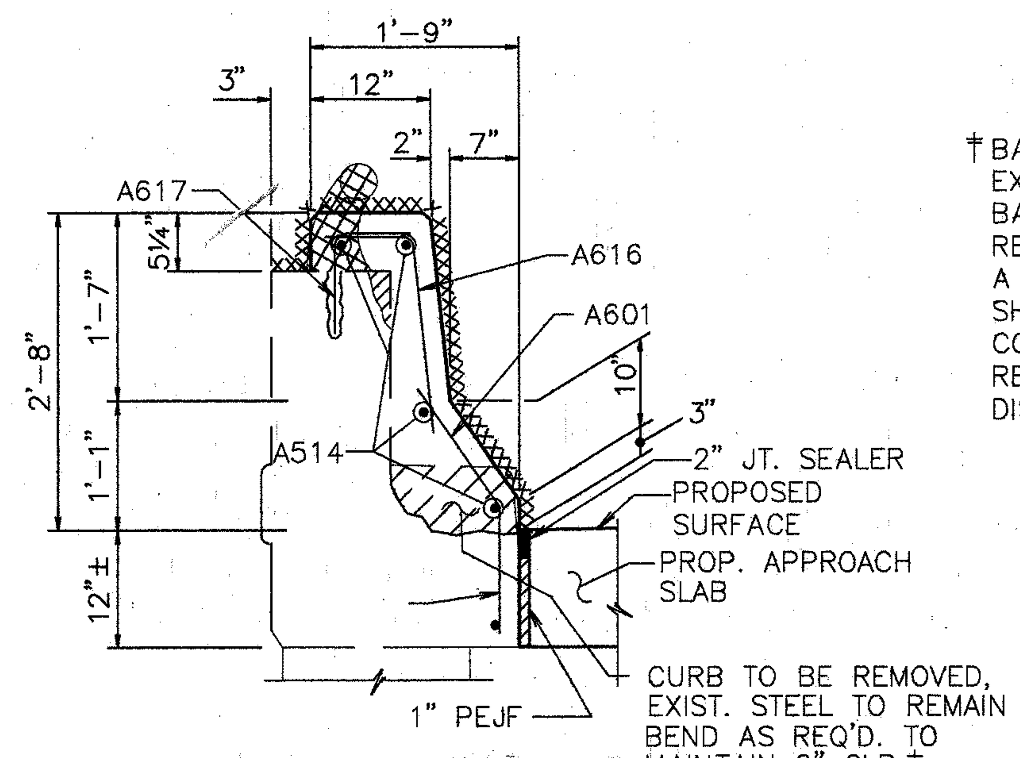
STA. @ ℄ LAMP POST	BAR MARK A	BAR MARK B
159+80	A533 FF, CENTER A534 NF	A518
162+30	A535	A536



ELEVATION SUPERSTRUCTURE PARAPET AT LIGHT STANDARD

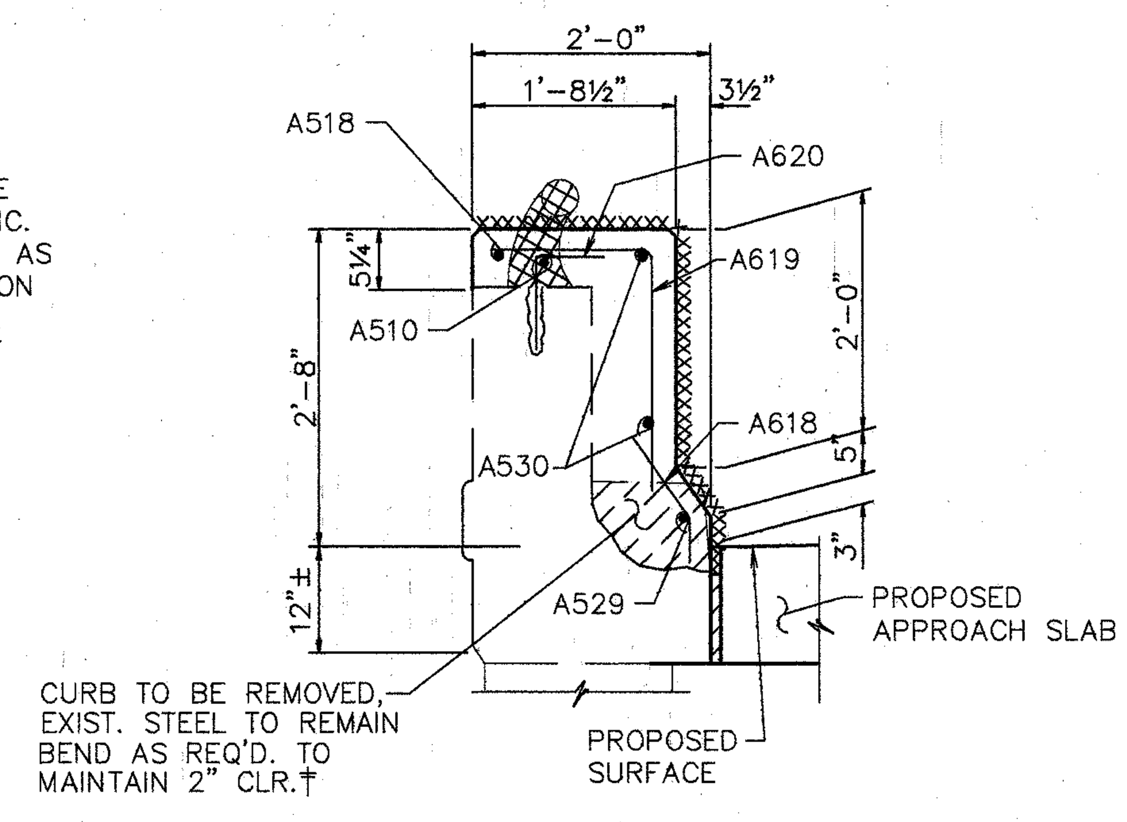


SECTION F-F

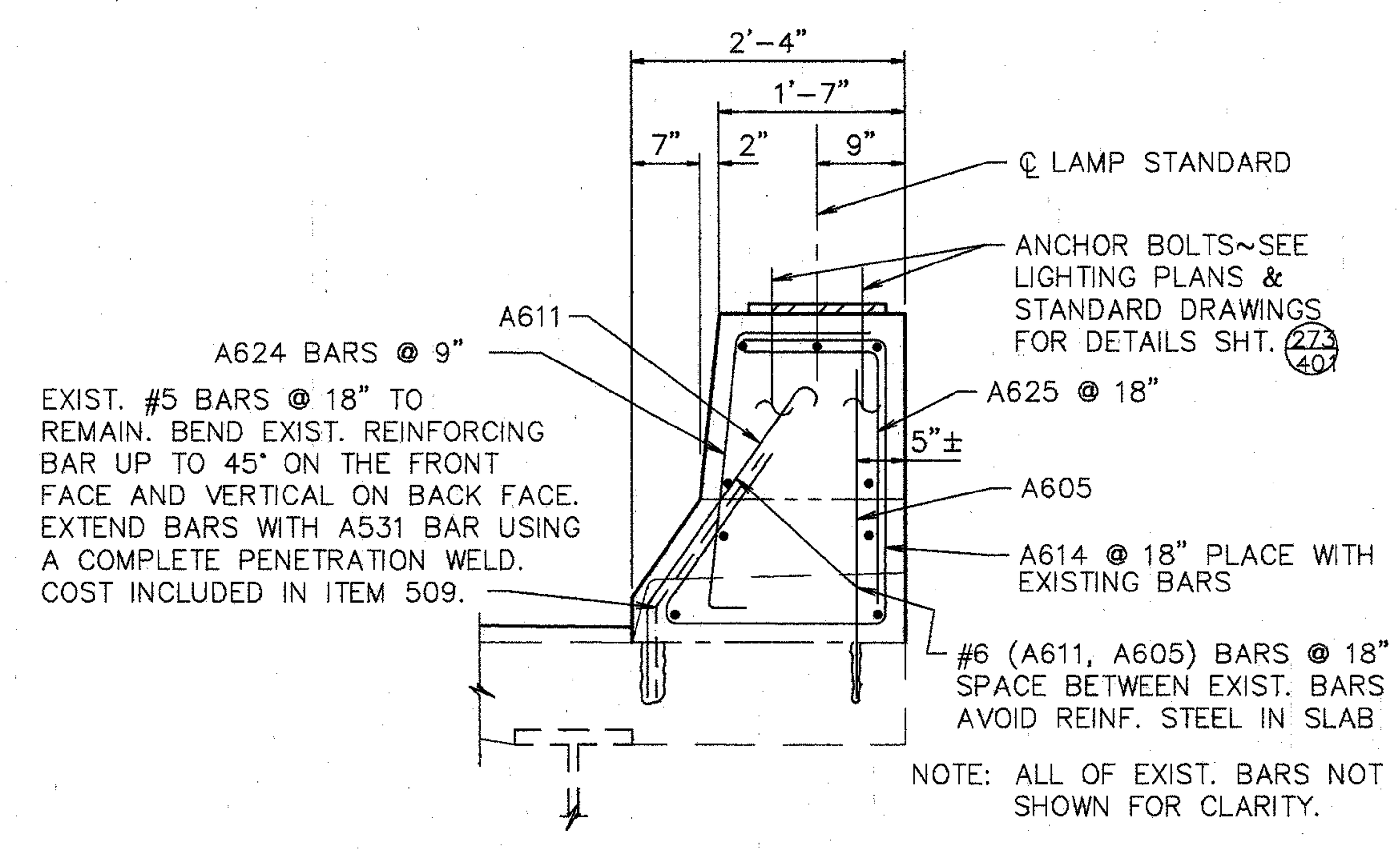


SECTION P-P

† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONC. REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.



SECTION Q-Q



CROSS SECTION @ LAMP STANDARDS

NOTES: BARS PLACED AT SPACING SHOWN IN PARAPET PANEL THAT INCLUDES LAMP STANDARD.

50" BARRIER SHALL BE DISCONTINUED 9" EITHER SIDE OF ℄ LAMP STANDARD. BARRIER SHALL BE 32" AS SHOWN BENEATH LAMP STANDARD.

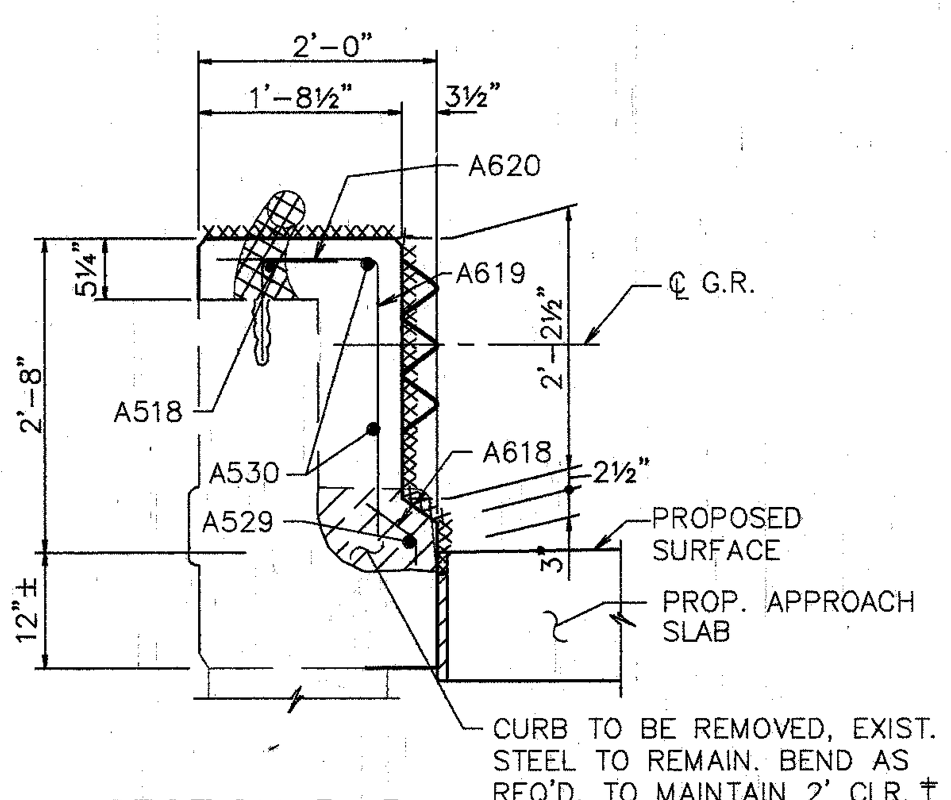
▨ EXIST. CURB & PARAPET TO BR REMOVED UNDER ITEM 202, PORTIONS OF STRUCTURE REMOVED

⊠ EXIST. RAILING & POSTS TO BE REMOVED & STACKED NEATLY ALONG THE RIGHT-OF-WAY FOR DISPOSAL BY THE CONTRACTOR. ALL WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED

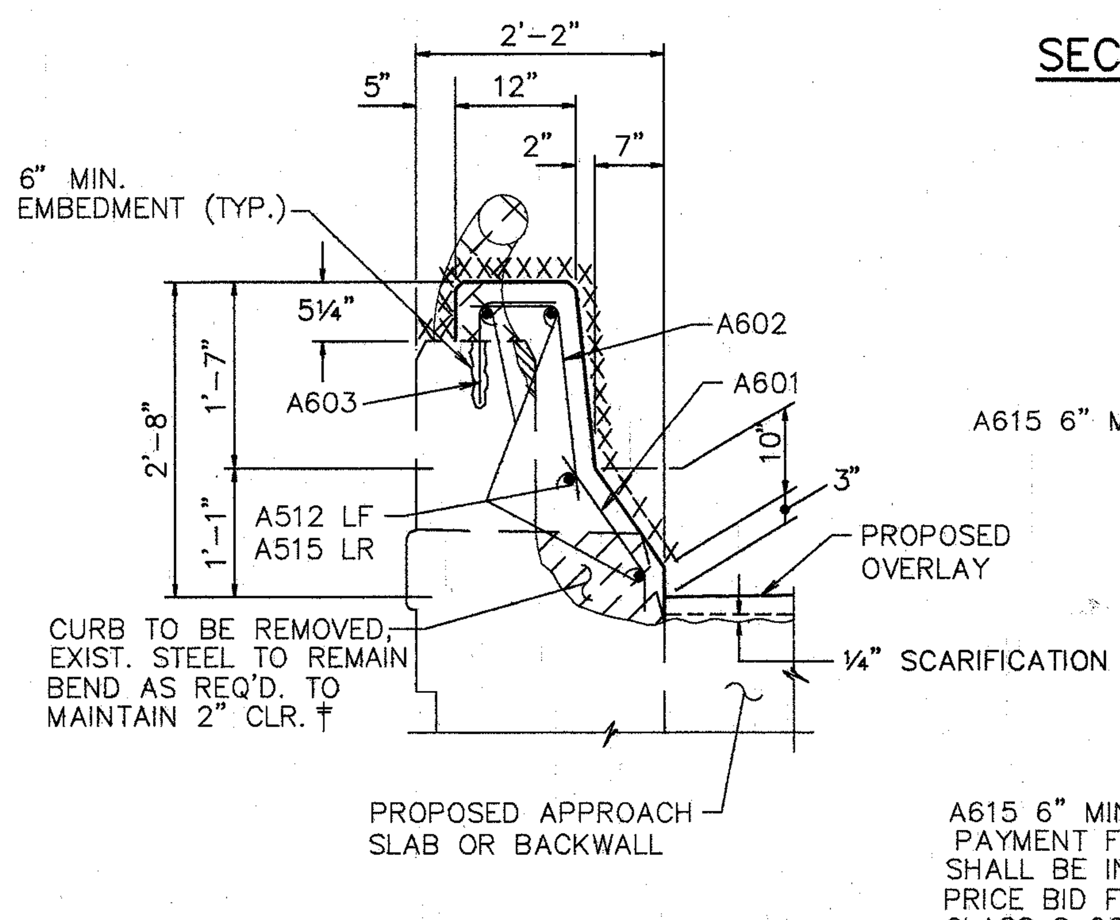
XXXXXX SURFACES TO BE SEALED UNDER ITEM SPECIAL, SEALING OF CONCRETE SURFACE.

NOTES:

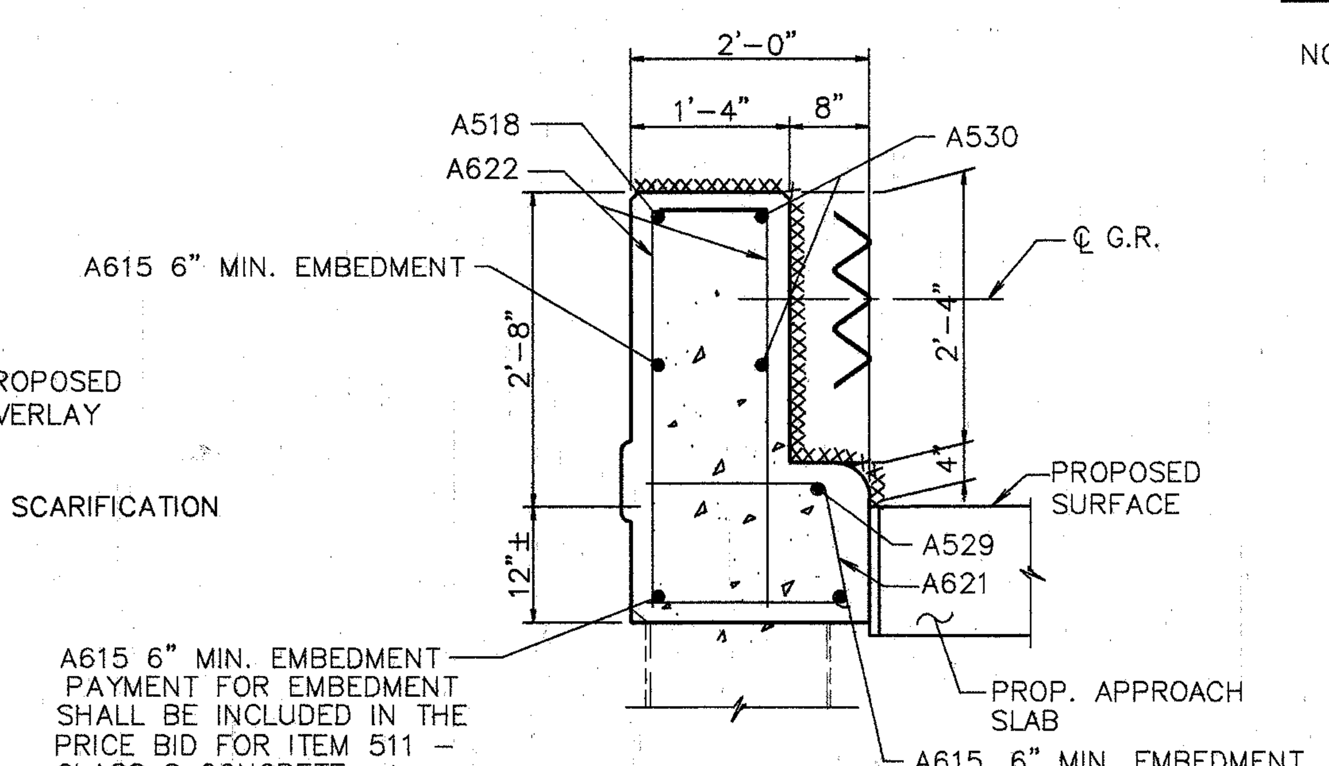
1. TYPE 'A' WATERPROOFING AT THE BRIDGE LIMIT END OF THE WIDENED APPR. SLAB (AS PER STD. DWG. AS-1-81) SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611 - APPROACH SLAB.



SECTION R-R



SECTION D-D



SECTION S-S

WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
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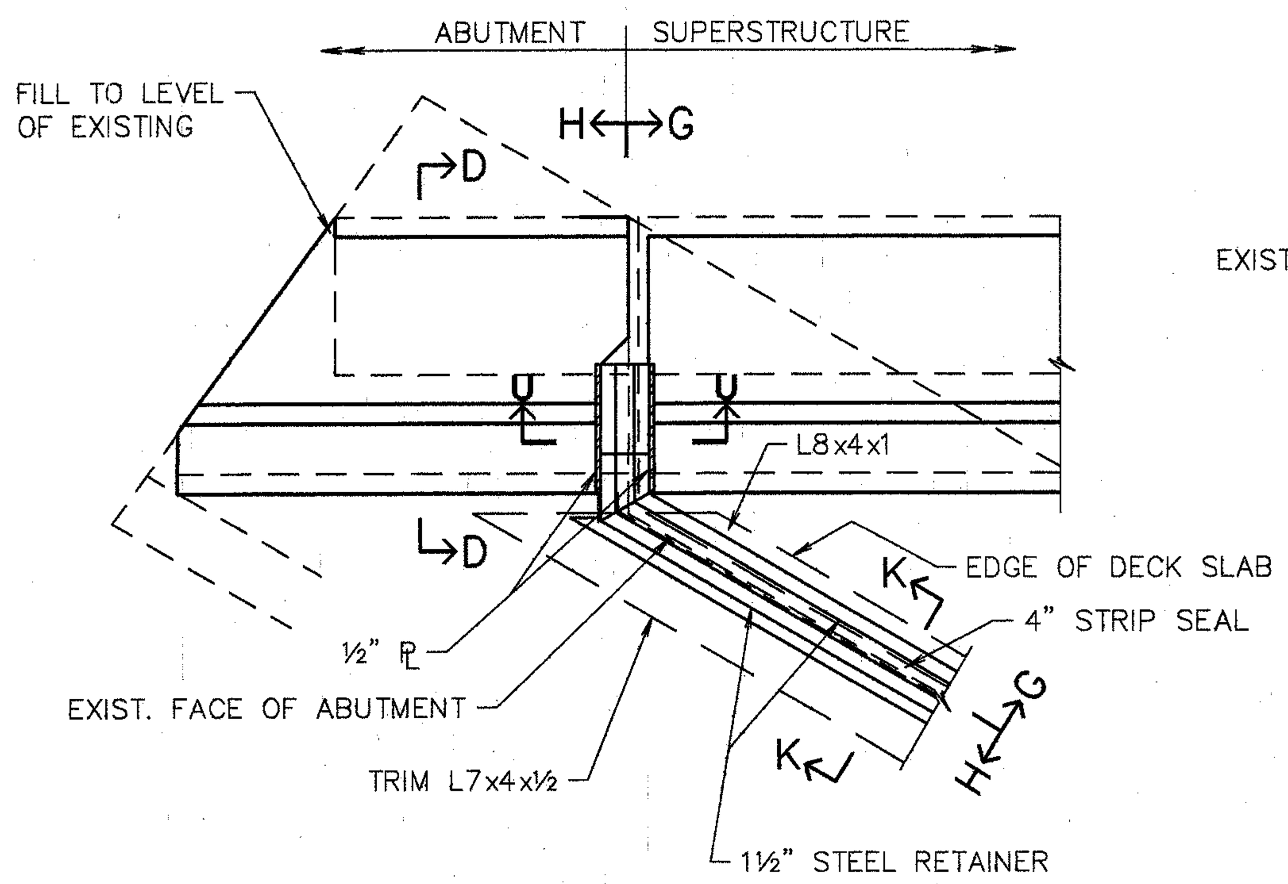
4/9

PARAPET SECTIONS

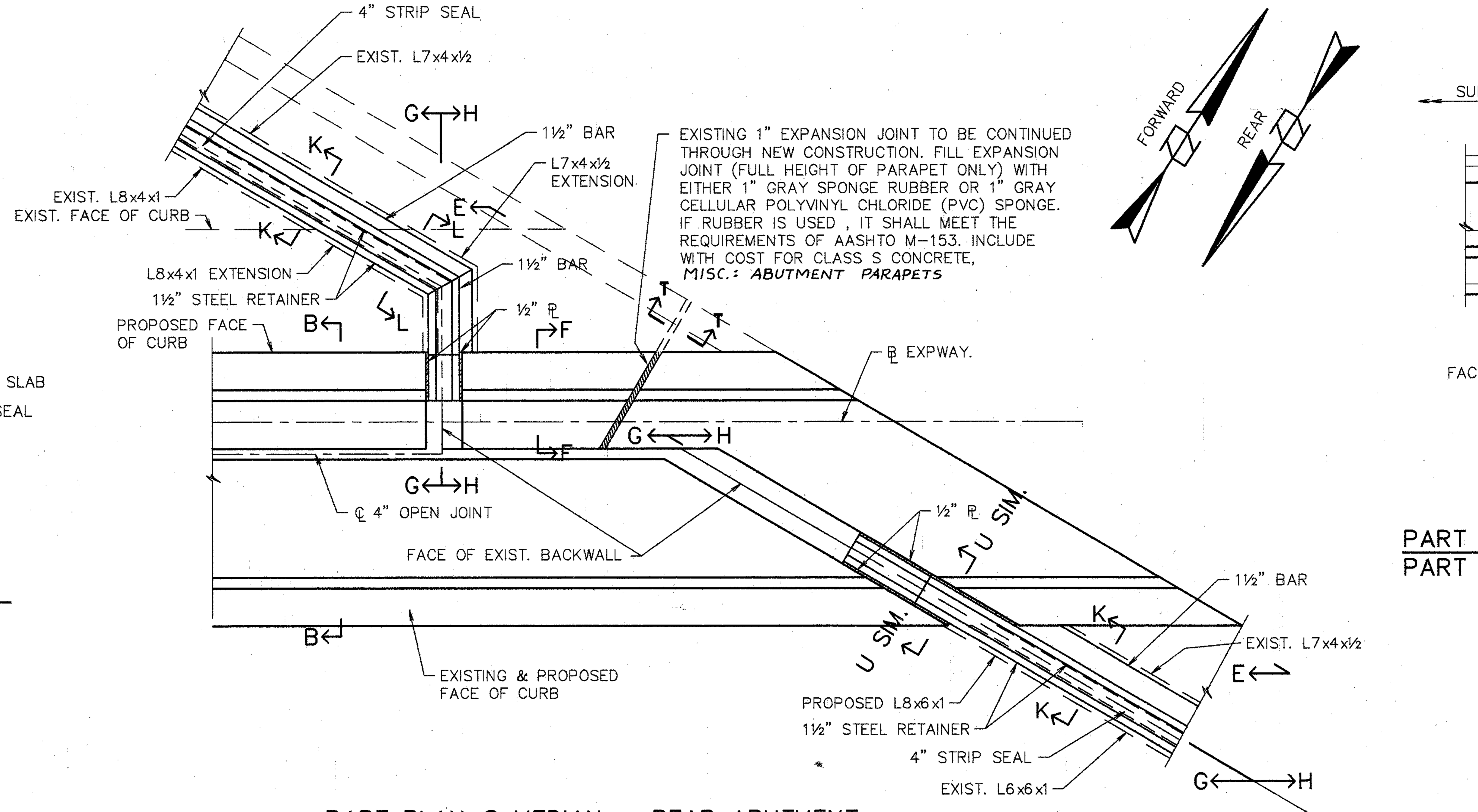
BRIDGE NO. HAM-71-0192 L/R OVER RAMP "GD"

HAMILTON COUNTY

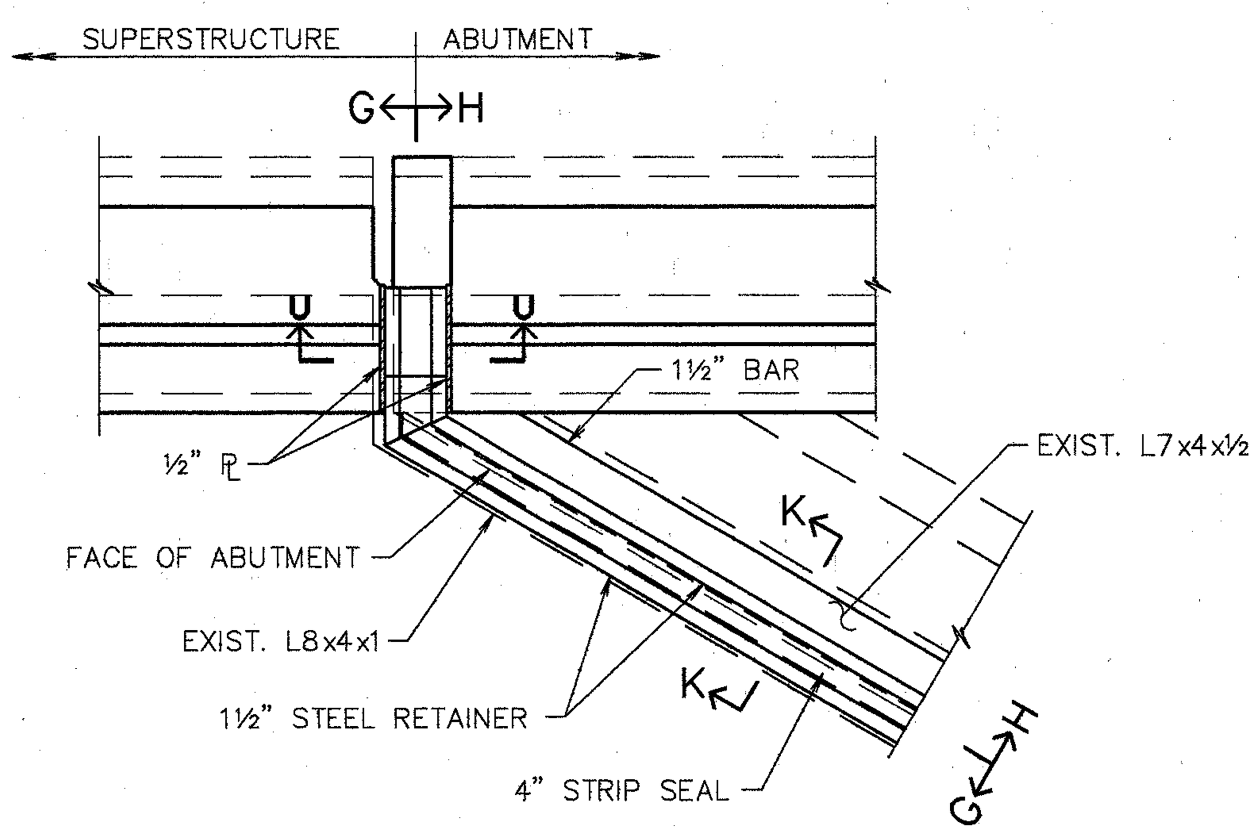
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	



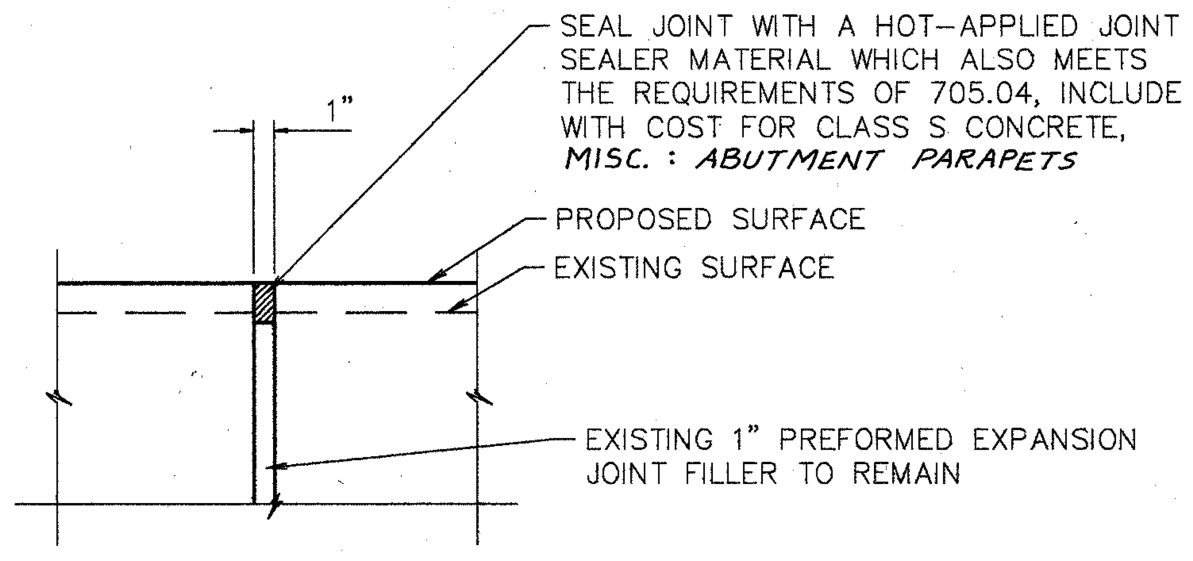
PART PLAN @ LEFT – REAR ABUTMENT
PART PLAN @ RIGHT– FORWARD SIMILAR



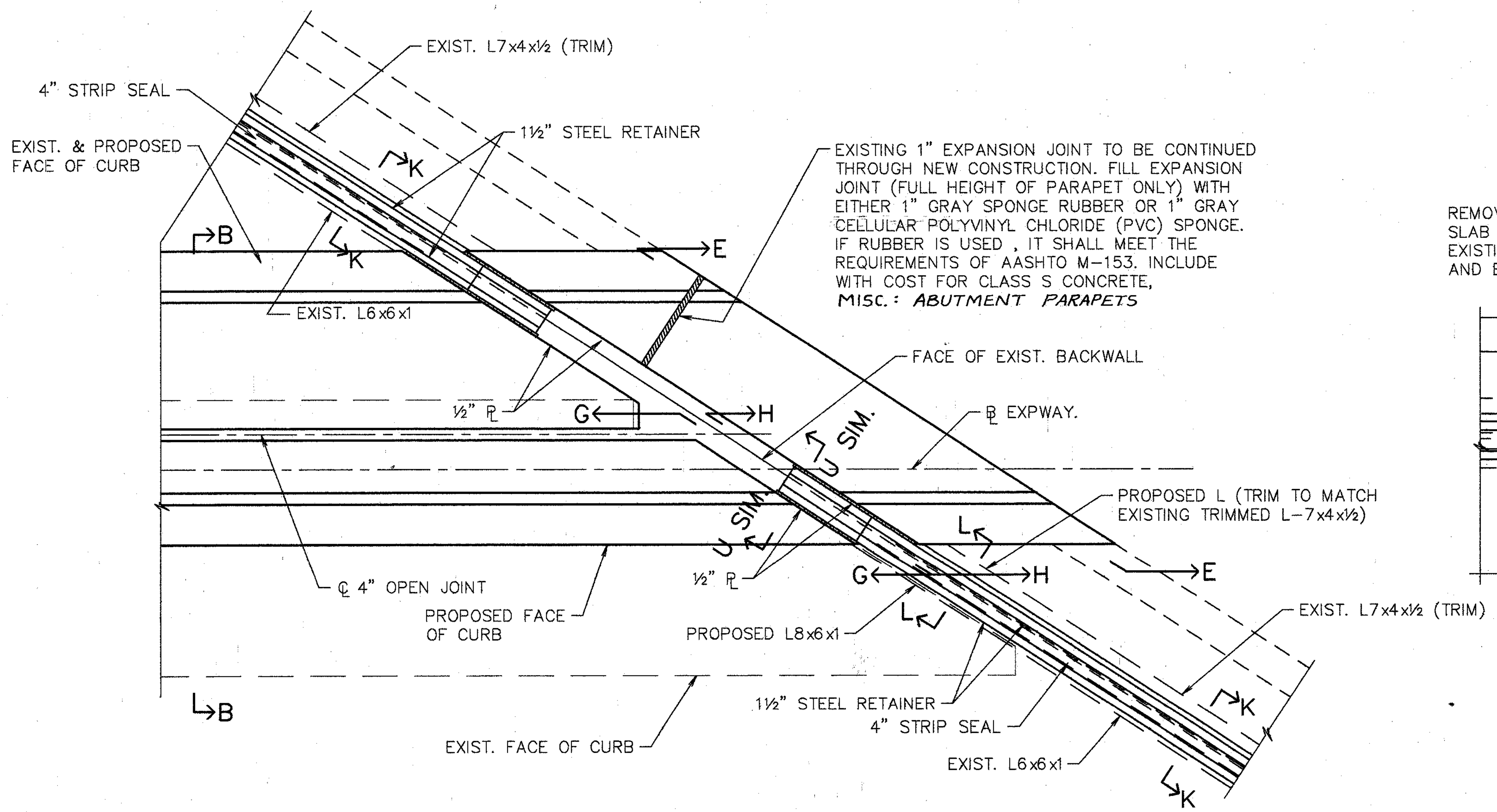
PART PLAN @ MEDIAN – REAR ABUTMENT



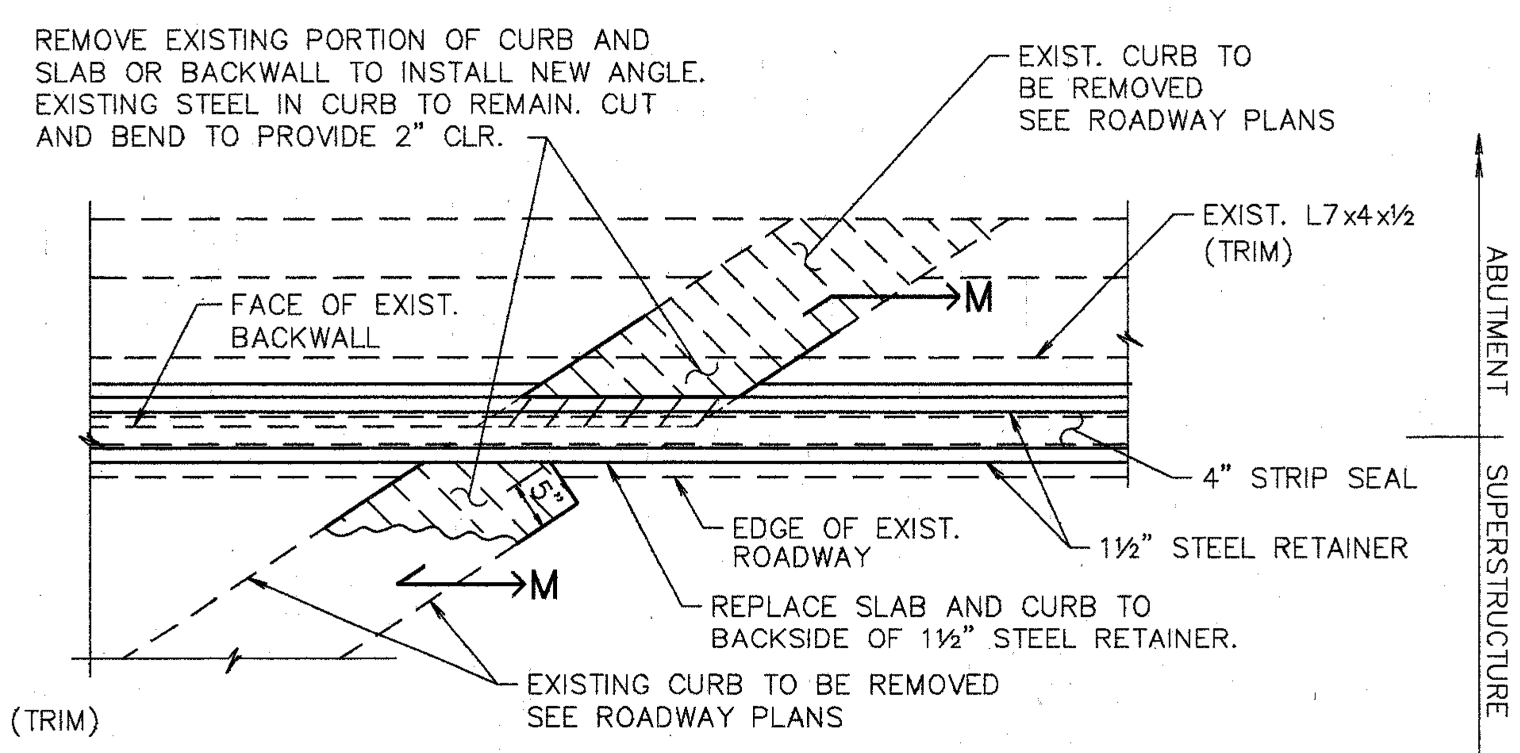
PART PLAN @ RIGHT – REAR ABUTMENT
PART PLAN @ LEFT – FORWARD SIMILAR



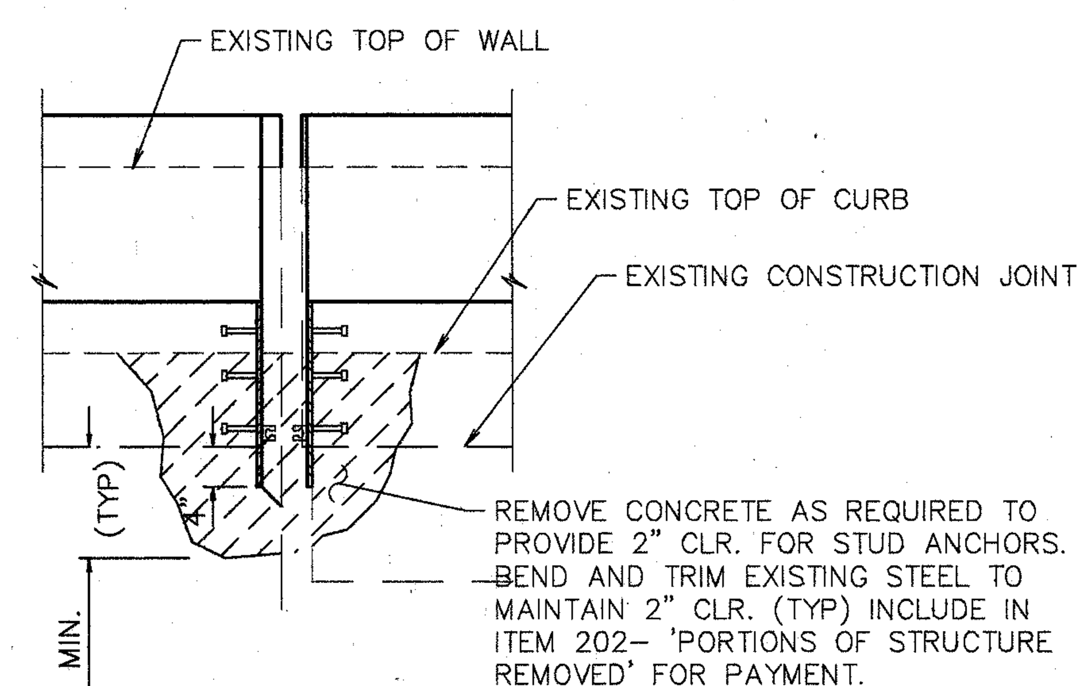
SECTION T–T



PART PLAN @ MEDIAN – FORWARD ABUTMENT



PART PLAN @ RAMP – REAR ABUTMENT



SECTION U–U

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(513) 461-5660

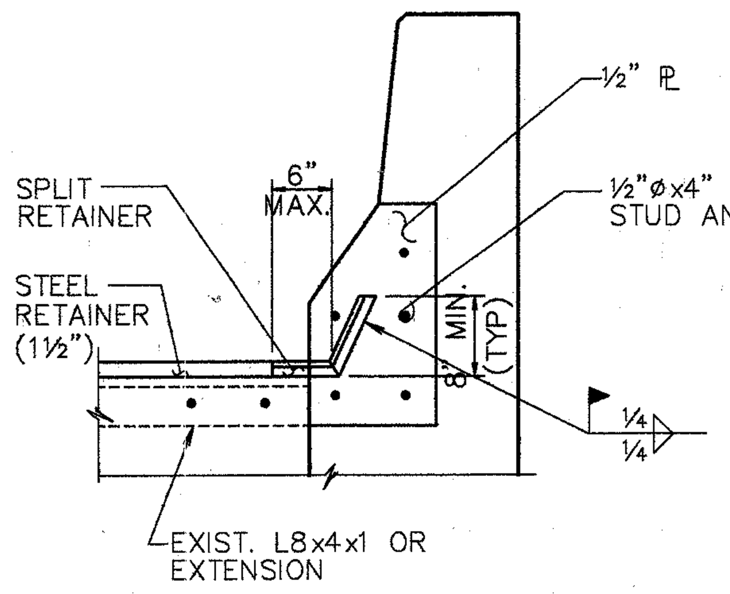
5/9

STRIP SEAL EXPANSION JOINTS AT ABUTMENTS

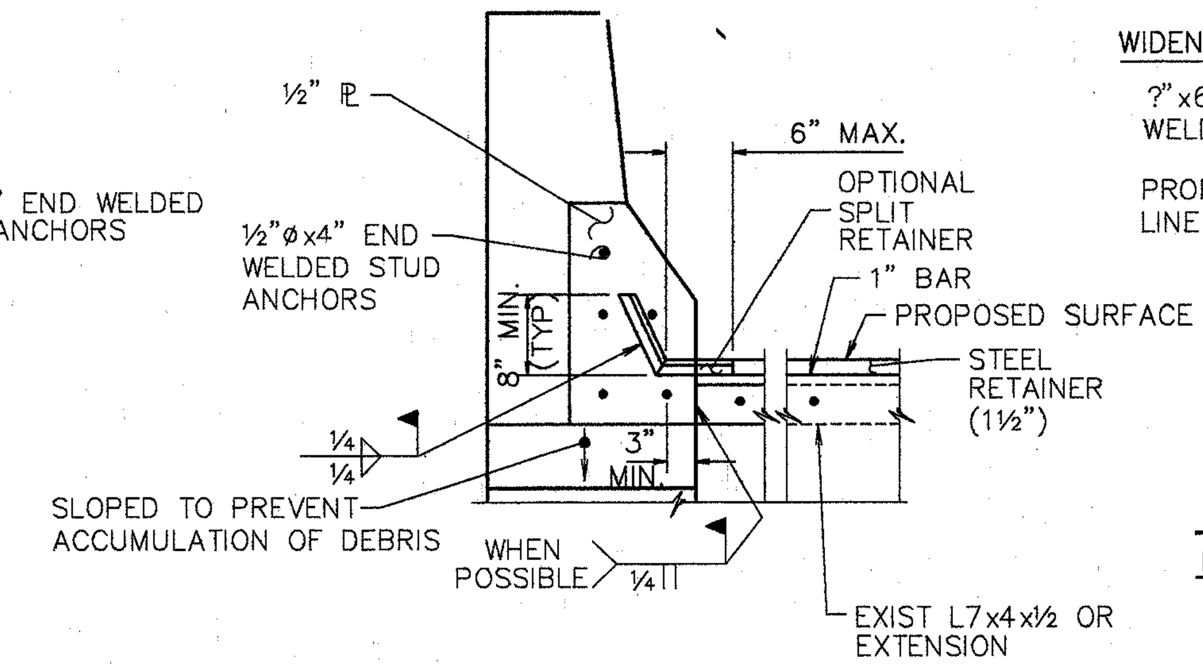
BRIDGE NO. HAM-71-0192 L/R
OVER RAMP "GD"

HAMILTON COUNTY

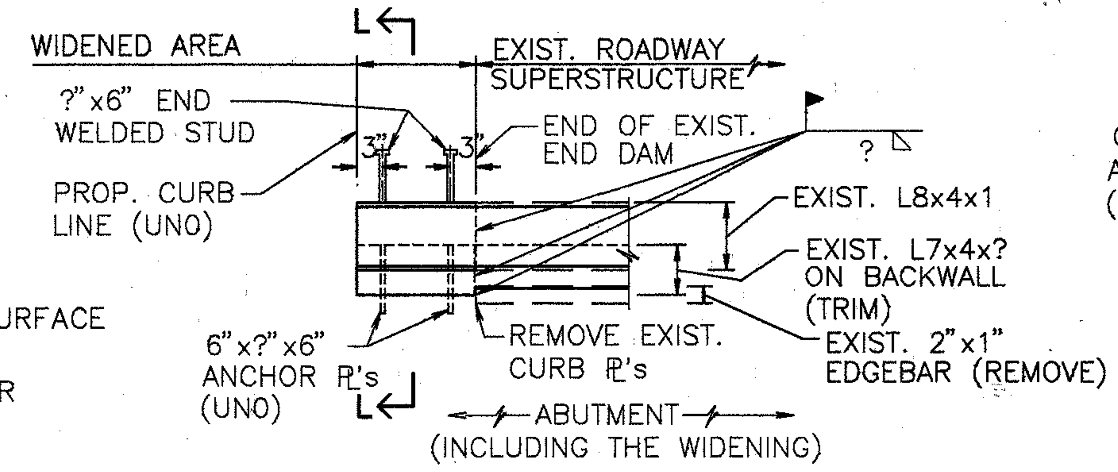
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	



SECTION G-G

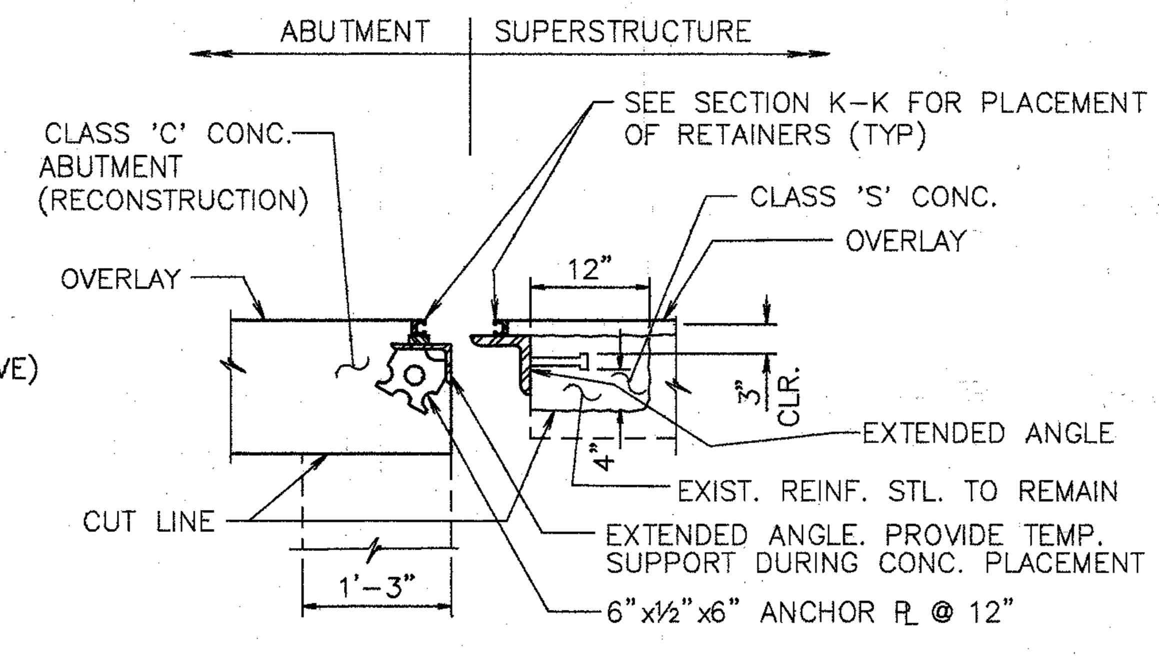


SECTION H-H



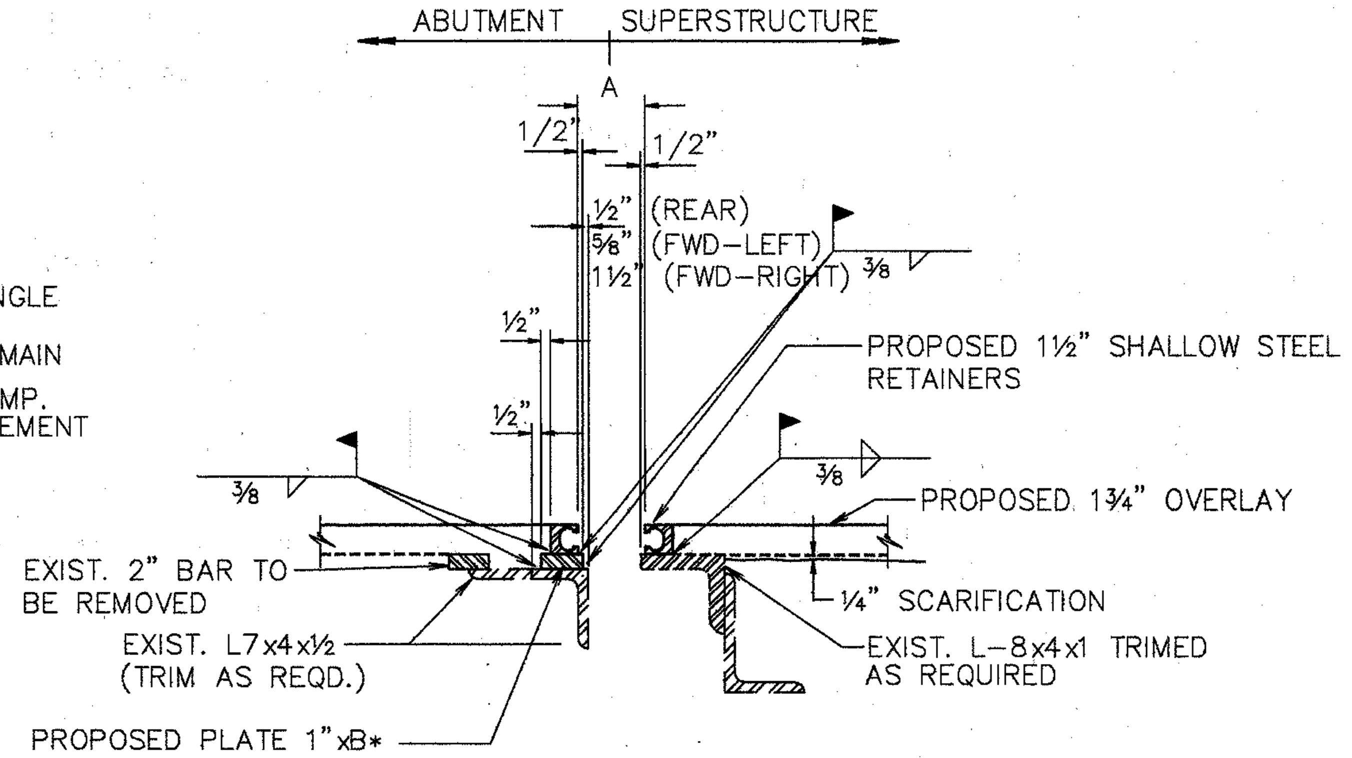
PLAN END DAM @ WIDENED AREAS

NOTES:
- END DAM WIDENING SHOWN IS FOR THE N.E. & S.W. CORNERS OF THE BRIDGE. THE N.W. & S.E. CORNERS ARE SIMILAR, BUT OPPOSITE HAND.
- FOR DETAILS & DIMS. NOT SHOWN SEE STD. DWG. SD-1-69.



NOTE:
1. FOR DETAILS NOT SHOWN SEE STD. DWG. SD-1-69
2. SEE SECTION K-K FOR WELDING
3. SEE PLAN END DAM @ WIDENED AREAS, THIS SHEET.

SECTION L-L

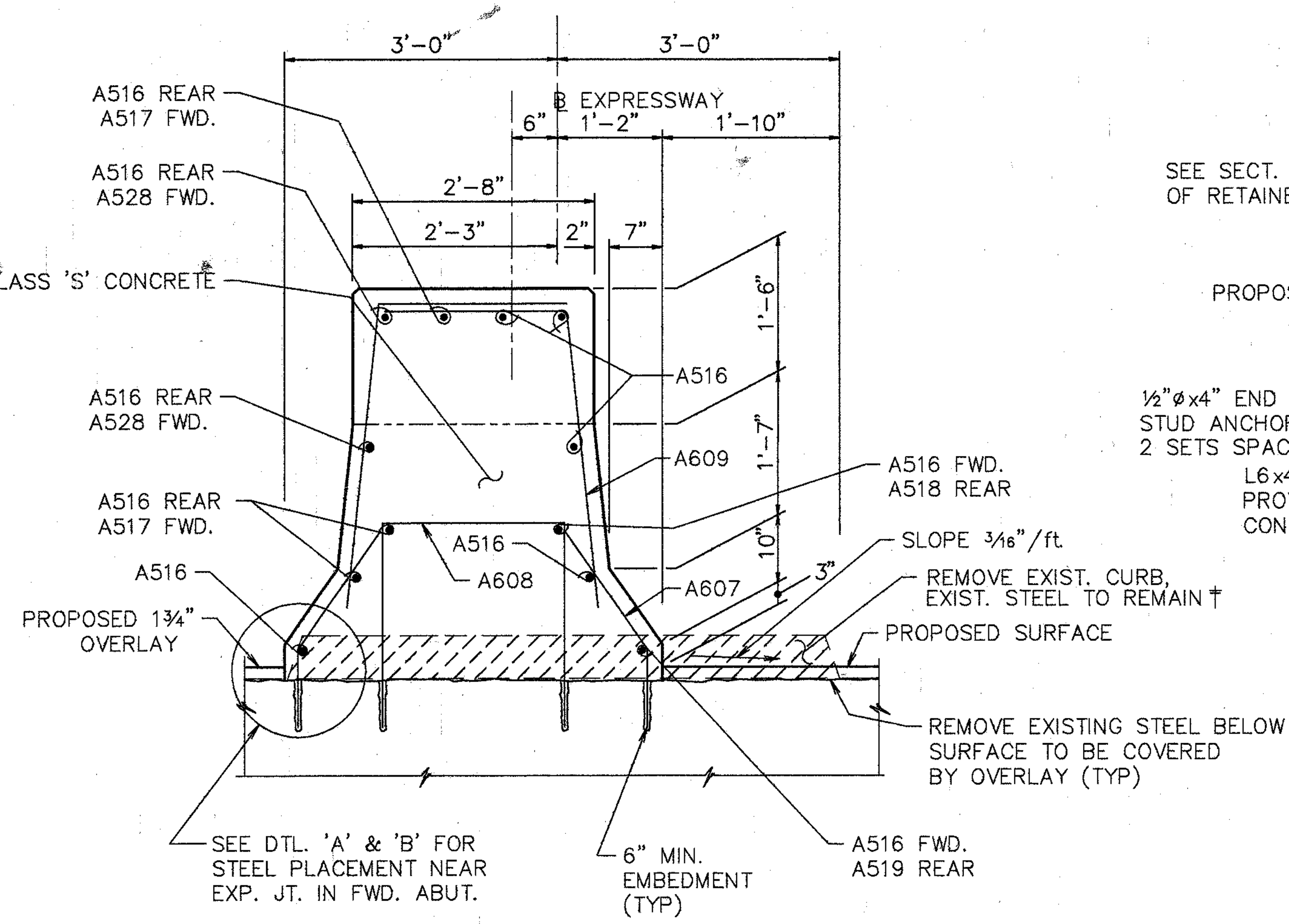


B* = ANGLE LEG MINUS 1"(REAR)/1⅛"(FWD-LEFT)/2"(FWD-RIGHT)

SECTION K-K

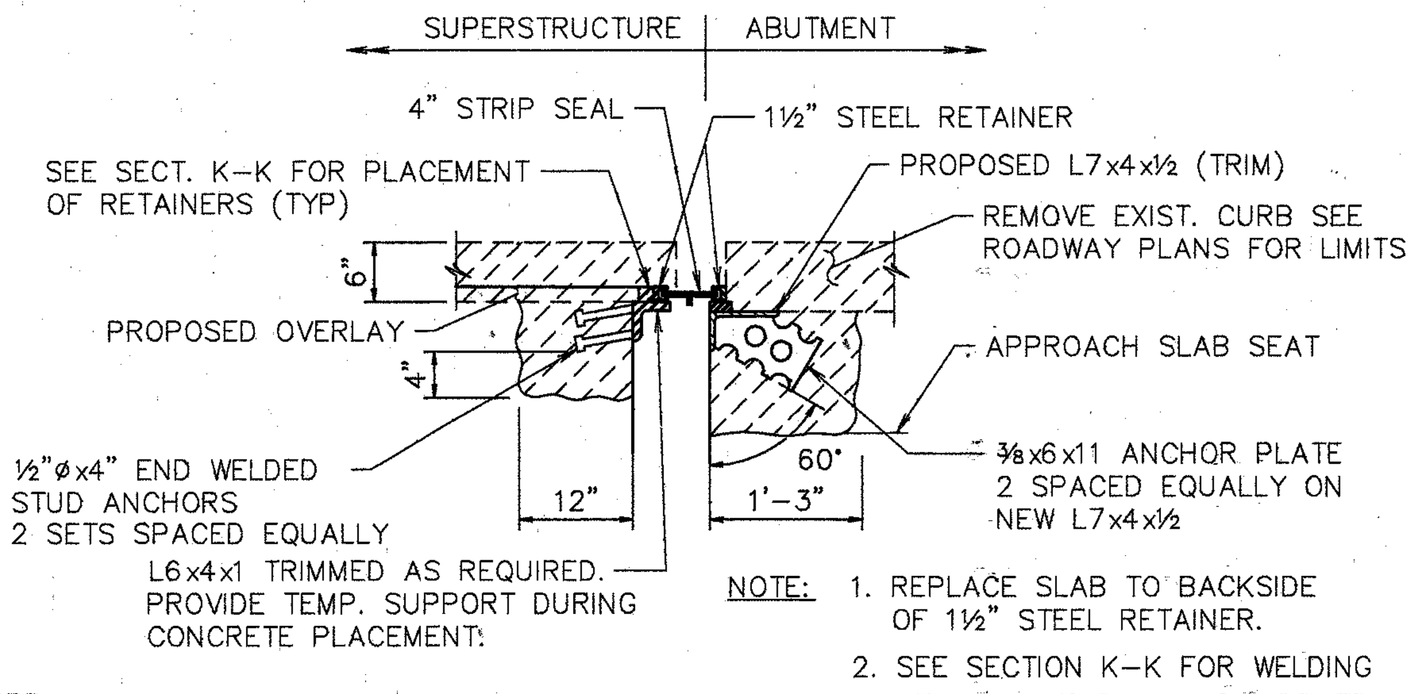
NOTES:
1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO MODIFYING THE EXPANSION JOINT.
2. THE PRICE BID FOR ITEM 516-'STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS', SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY OTHER INCIDENTIAL ITEMS, AS DETAILED. REMOVAL OF CURB OR PARAPET AS SHOWN SHALL BE INCLUDED UNDER ITEM 202-'PORTIONS OF STRUCTURE REMOVED.
3. FOR DETAILS NOT SHOWN REFER TO DRAWING EXJ-4-87 SHEETS 3 AND 4.
4. STRIP SEAL TO BE INSTALLED IN ONE CONTINUOUS PIECE (NO OPEN JOINTS).
5. PROVIDE TEMPORARY SUPPORT FOR ABUTMENT END DAM DURING CONSTRUCTION. REMOVE TEMPORARY SUPPORT AS SOON AS CONCRETE HAS SET, PREFERABLY WITHIN TWO HOURS AFTER PLACING TO AVOID DAMAGE DUE TO EXPANSION AND CONTRACTION OF SUPERSTRUCTURE.

TEMPERATURE	DIM. 'A' FORWARD	DIM. 'A' REAR
40° F	3⅜"	3½"
50° F	3¼"	3½"
60° F	3¼"	3⅜"
70° F	3⅛"	3⅜"
80° F	3"	3¼"
90° F	3"	3¼"



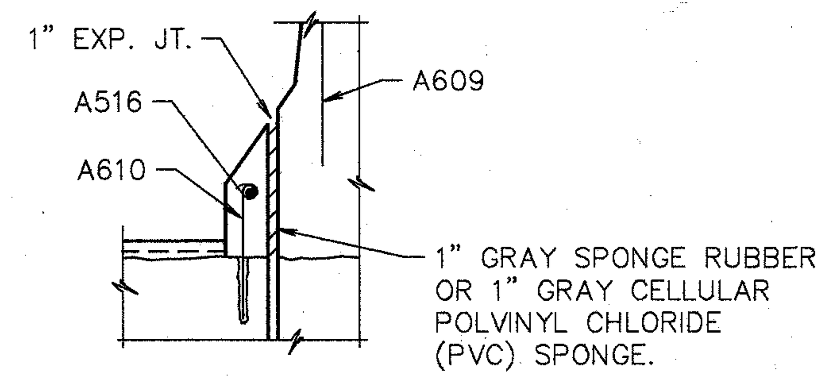
SECTION E-E

NOTE:
BARS PLACED WITH SKEW.
WORK TO BE INCLUDED IN ITEM 511 - CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS

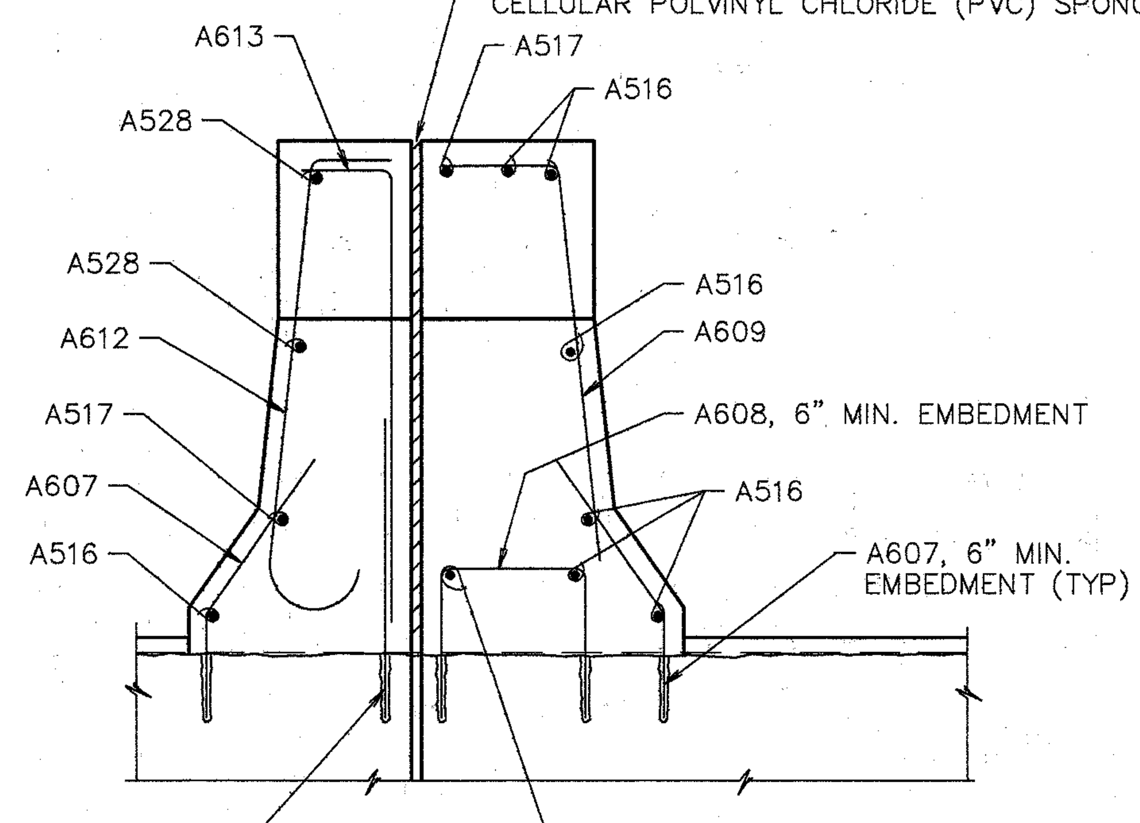


NOTE:
1. REPLACE SLAB TO BACKSIDE OF 1½" STEEL RETAINER.
2. SEE SECTION K-K FOR WELDING
3. SEE PLAN END DAM @ WIDENED AREAS, THIS SHEET.

SECTION M-M

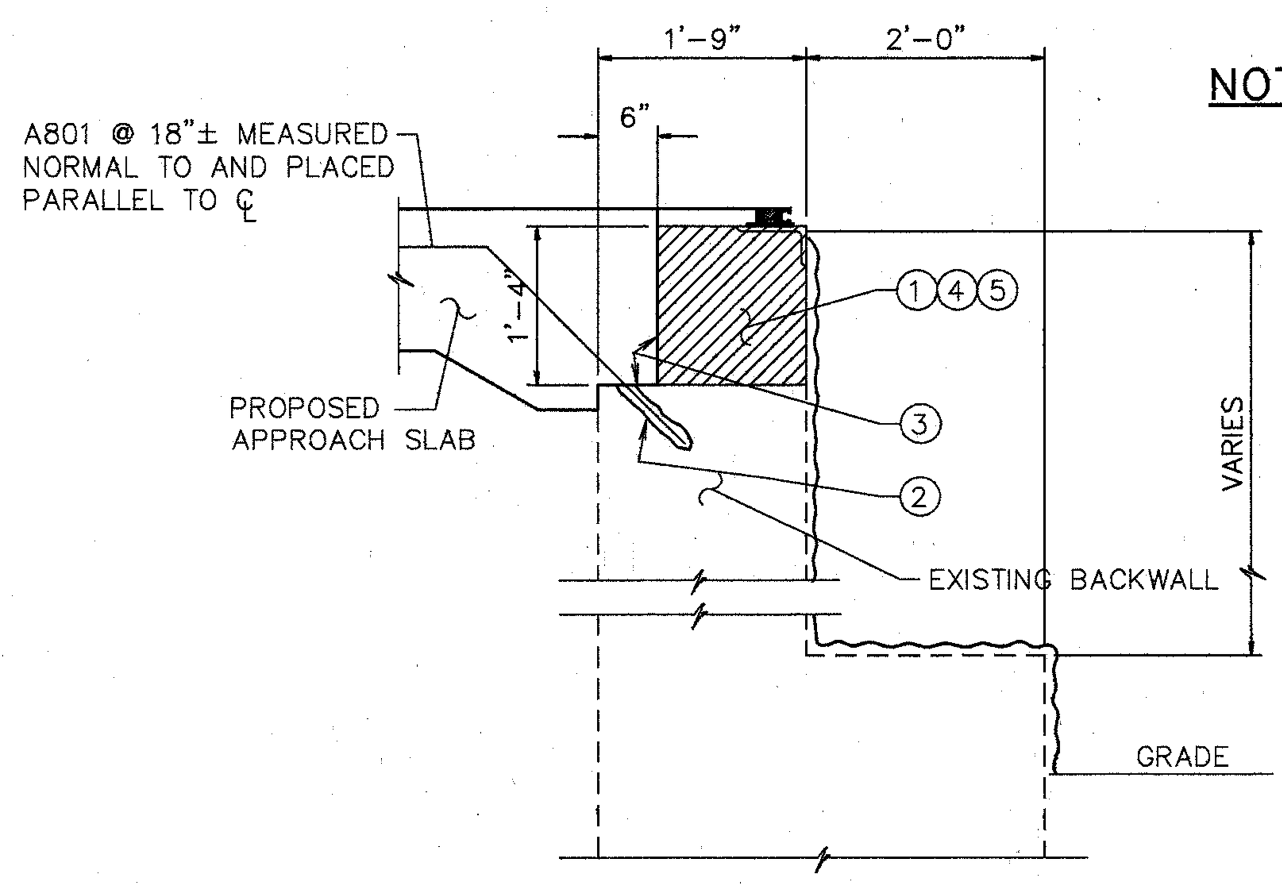


DETAIL A



DETAIL B

TABLE A	REAR ABUTMENT L	REAR ABUTMENT R	FORWARD REAR L	FORWARD REAR R
SOUTH BOUND	A542	A539	–	A538
NORTH BOUND	A537	A543	A541	A540
RAMP	–	A541	–	–



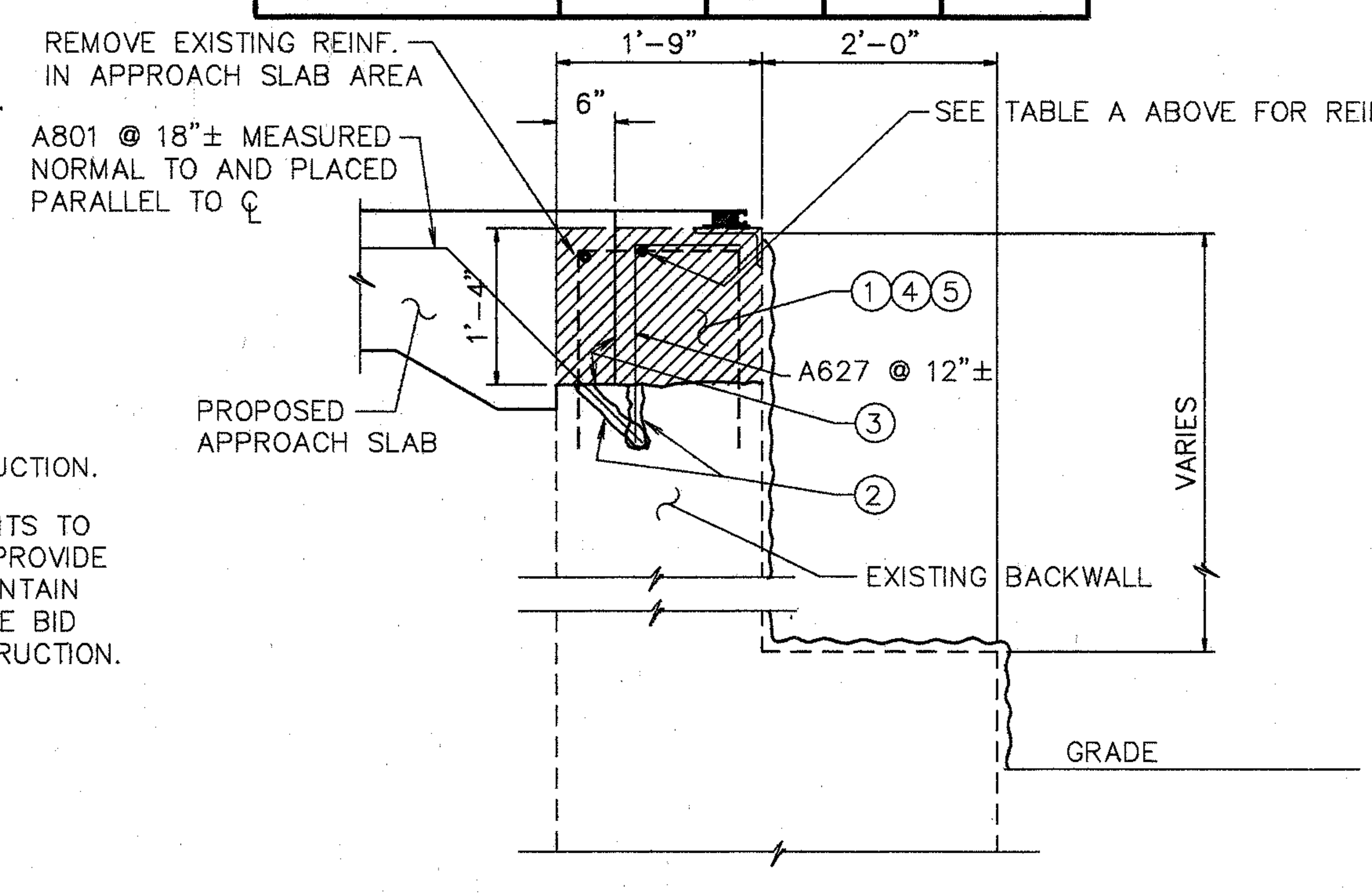
SECTION N-N

NOTES FOR SECTION N-N & N1-N1

1. EXISTING REINFORCING STEEL TO REMAIN ~ REINFORCING STEEL DAMAGED TO BE REPLACED AT CONTRACTORS EXPENSE.
2. 1' MIN. EMBEDMENT (SEE DOWEL HOLE GENERAL NOTE) ITEM 510.
3. TYPE 'A' WATERPROOFING (PAYMENT INCLUDED IN THE PRICE BID FOR APPROACH SLAB).
4. CLASS 'C' CONCRETE, ABUTMENT RECONSTRUCTION.
5. PROVIDE CONTRACTION AND EXPANSION JOINTS TO MATCH THOSE IN EXISTING BACKWALL AND PROVIDE CONSTRUCTION JOINTS AS REQUIRED TO MAINTAIN TRAFFIC. PAYMENT TO BE INCLUDED IN PRICE BID FOR ITEM 511 CLASS C CONCRETE RECONSTRUCTION.

EXISTING CONCRETE TO BE REMOVED INCLUDE IN ITEM 202 FOR PAYMENT.

SURFACE TO BE SEALED UNDER ITEM SPECIAL- 'SEALING OF CONCRETE SURFACE, EPOXY'.



SECTION N1-N1

† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONC. REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.

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STRIP SEAL EXPANSION JOINTS AT ABUTMENTS

BRIDGE NO. HAM-0192 L/R OVER RAMP "GD"

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM	11/11/94	

CALC. BY LATM DATE 9-23-92 / CHK'D BY DEM DATE 10-4-94	HAM-71-1.30/9.00	OHIO / F.H.W.A. REGION 5	302 / 401

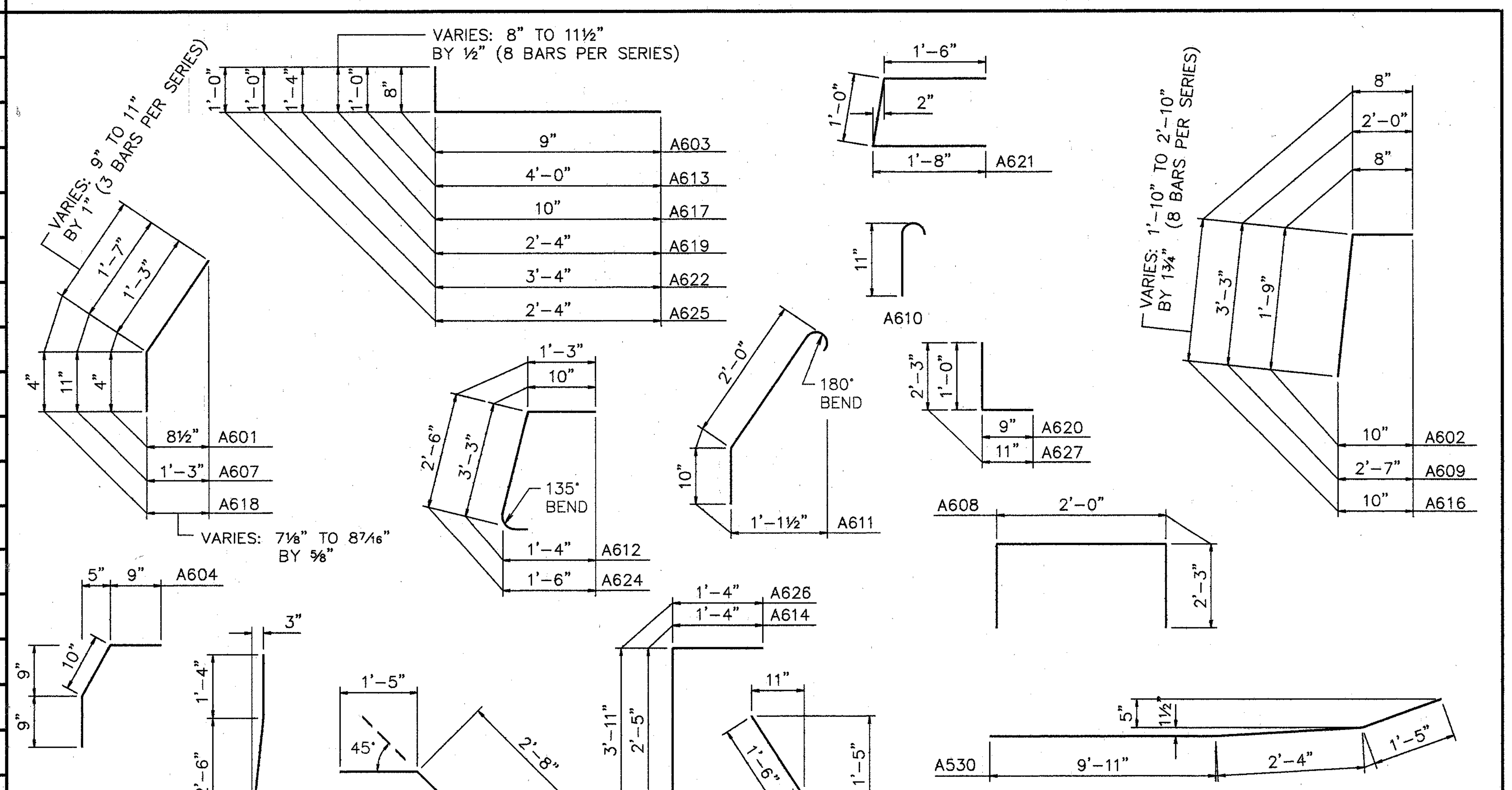
REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A501	STR.	106	30'-0"	3317
A502	STR.	2	30'-7"	64
A503	STR.	2	25'-10"	54
A504	STR.	8	21'-9"	181
A505	STR.	60	17'-2"	1074
A506	STR.	3	20'-0"	63
A507	STR.	15	16'-7"	259
A508	STR.	3	13'-4"	42
A509	STR.	3	22'-10"	71
A510	STR.	4	13'-9"	57
A511	STR.	169	6'-2"	1087
A512	STR.	132	14'-8"	2019
A513	STR.	4	18'-4"	76
A514	STR.	4	4'-5"	18
A515	STR.	4	2'-4" TO 3'-1" BY 3"	11
A516	STR.	17	2'-3"	40
A517	STR.	3	1'-3"	4
A518	STR.	5	4'-0"	21
A519	STR.	1	1'-6"	2
A520	STR.	4	1'-6" TO 2'-3" BY 3"	8
A521	STR.	2	1'-6"	3
A522	STR.	6	10'-2"	64
A523	STR.	3	21'-0"	66
A524	STR.	2	16'-4"	34
A525	STR.	3	5'-11"	19
A526	STR.	3	5'-6"	17
A527	STR.	3	6'-8"	21
A528	STR.	3	1'-0"	3
A529	BNT. †	1	13'-8"	14
A530	BNT.	2	13'-8"	28
*A531	STR.	42	2'-0"	88
A532	STR.	2	15'-10"	33
A533	STR.	2	10'-0"	21
A534	STR.	1	10'-6"	11
A535	STR.	3	7'-1"	22
A536	STR.	3	5'-9"	18
A537	STR.	1	16'-10"	18
A538	STR.	1	11'-11"	12
A539	BNT.	1	12'-10"	13
A540	BNT.	1	14'-6"	15
A541	BNT.	2	15'-2"	32
A542	STR.	1	21'-10"	23
A543	BNT.	1	27'-0"	28
A601	BNT.	498	1'-6"	1122
A602	BNT.	490	2'-5"	1779
A603	BNT.	490	1'-3"	920
A604	BNT.	240	2'-2"	781
A605	STR.	470	2'-6"	1765
A606	BNT.	240	4'-4"	1561
A607	BNT.	7	2'-5"	25
A608	BNT.	4	6'-2"	37
A609	BNT.	7	5'-1"	53
A610	BNT.	1	1'-2"	3
A611	BNT.	233	3'-4"	1165
A612	BNT.	247	4'-9"	1762
A613	BNT.	248	4'-10"	1800
A614	BNT.	2	7'-0"	21
A615	STR.	1	10"	1
A616	BNT.	8	2'-6" TO 3'-6"	36
A617	BNT.	8	1'-4" TO 1'-8"	18
A618	BNT.	3	1'-2"	5
A619	BNT.	3	3'-6"	16
A620	BNT.	3	1'-7"	7
A621	BNT.	1	3'-10"	6
A622	BNT.	2	4'-2"	13
A623	STR.	240	3'-10"	1382
A624	BNT.	4	4'-3"	26
A625	BNT.	2	3'-2"	10
A626	BNT.	19	8'-6"	243
A627	BNT.	118	3'-0"	532
A801	BNT.	162	4'-0"	1730
REPLACEMENT STEEL				600
			TOTAL	26490

ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	L.S.	PORTIONS OF STRUCTURE REMOVED
202	23501	1590	S.Y.	WEARING COURSE REMOVED (ASPHALT), AS PER PLAN
509	15824	26490	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
510	12201	280	L.F.	DOWEL HOLES, AS PER PLAN
511	34450	13	C.Y.	CLASS S CONCRETE, MISC: ABUTMENT PARAPETS
511	34450	123	C.Y.	CLASS S CONCRETE, MISC.: CONCRETE PARAPET RAILING, AS PER PLAN
511	45700	32	C.Y.	CLASS C CONCRETE ABUTMENT (RECONSTRUCTION)
SPECIAL	51267500	2065	S.Y.	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	563	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
516	14600	100	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2"x4" SEALER, AS PER PLAN
513	21000	31	EACH	TRIMMING OF BEAM END
516	11210	465	L.F.	STRUCTURAL EXP. JT., INCLUDING ELASTOMERIC STRIP SEAL
516	45304	32	EACH	REFURBISH BEARING DEVICE
517	76201	465	L.F.	RAILING FACED, AS PER PLAN (32" HIGH)
518	12800	8	EACH	SCUPPER MODIFICATION
518	63300	LUMP SUM	L.S.	STRUCTURE DRAINAGE, MISC: MODIFY DRAINAGE PIPING
519	11100	88	S.F.	PATCHING CONCRETE STRUCTURE
SPECIAL	51912600	16	L.F.	CONCRETE REPAIR BY EPOXY INJECTION
604	33400	1	EACH	MANHOLE COVER
845	40210	3750	S.Y.	LATEX MODIFIED CONCRETE MISC.: OVERLAY (1¾" THICK) ON EXISTING DECK
845	11000	32	C.Y.	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)
845	30000	1	C.Y.	FULL DEPTH REPAIR
514	27704	LUMP	L.S.	FIELD PAINTING EXISTING STEEL, EEU *
516	14600	760	L.F.	SEAL JOINT BETWEEN ABUTMENT AND CONCRETE SLOPE PROTECTION
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
601	21100	12	S.Y.	REPAIR CONCRETE SLOPE PROTECTION

* SEE PROPOSAL NOTE

BENT BAR DETAILS



* A531 REINFORCING BAR TO HAVE A COMPLETE PENETRATION WELD WITH EXISTING REINFORCING AND SHALL BE GRADE 40.

† BEND IN FIELD AS REQUIRED.

PROPOSED WORK

1. SCARIFY EXISTING DECK ¼", AND REMOVE DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER.
2. REFURBISH ALL ABUTMENT BEARINGS.
3. MODIFY PARAPETS ON THE SUPERSTRUCTURE & ABUTMENTS. SEAL PARAPETS AS SHOWN ON PLANS. (INSTALL PLATES FOR STRIP SEAL EXP. JT.).
4. PLACE 1¾" THICK LATEX MODIFIED CONCRETE ON DECK.
5. RECONSTRUCT ABUTMENT BACKWALLS ABOVE APPROACH SLAB SEAT.
6. SEAL ALL TRANSVERSE EXPANSION JOINTS WITH STRIP SEAL.
7. REFURBISH DRAINAGE PIPING.
8. TRIM BEAM ENDS TO 2" CLEARANCE (OR AS CLOSE TO 2" AS POSSIBLE).
9. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION AND ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTENANCE OF TRAFFIC PLANS. MAINTENANCE OF TRAFFIC PLAN REQUIRES CONSTRUCTION PHASING LIMITS AT LANE CENTERLINES. DUE TO THESE LIMITS, OVERLAY MAY REQUIRE SPECIAL ATTENTION.
10. OTHER WORK AS DESCRIBED IN THESE PLANS.

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QUANTITIES AND GENERAL NOTES

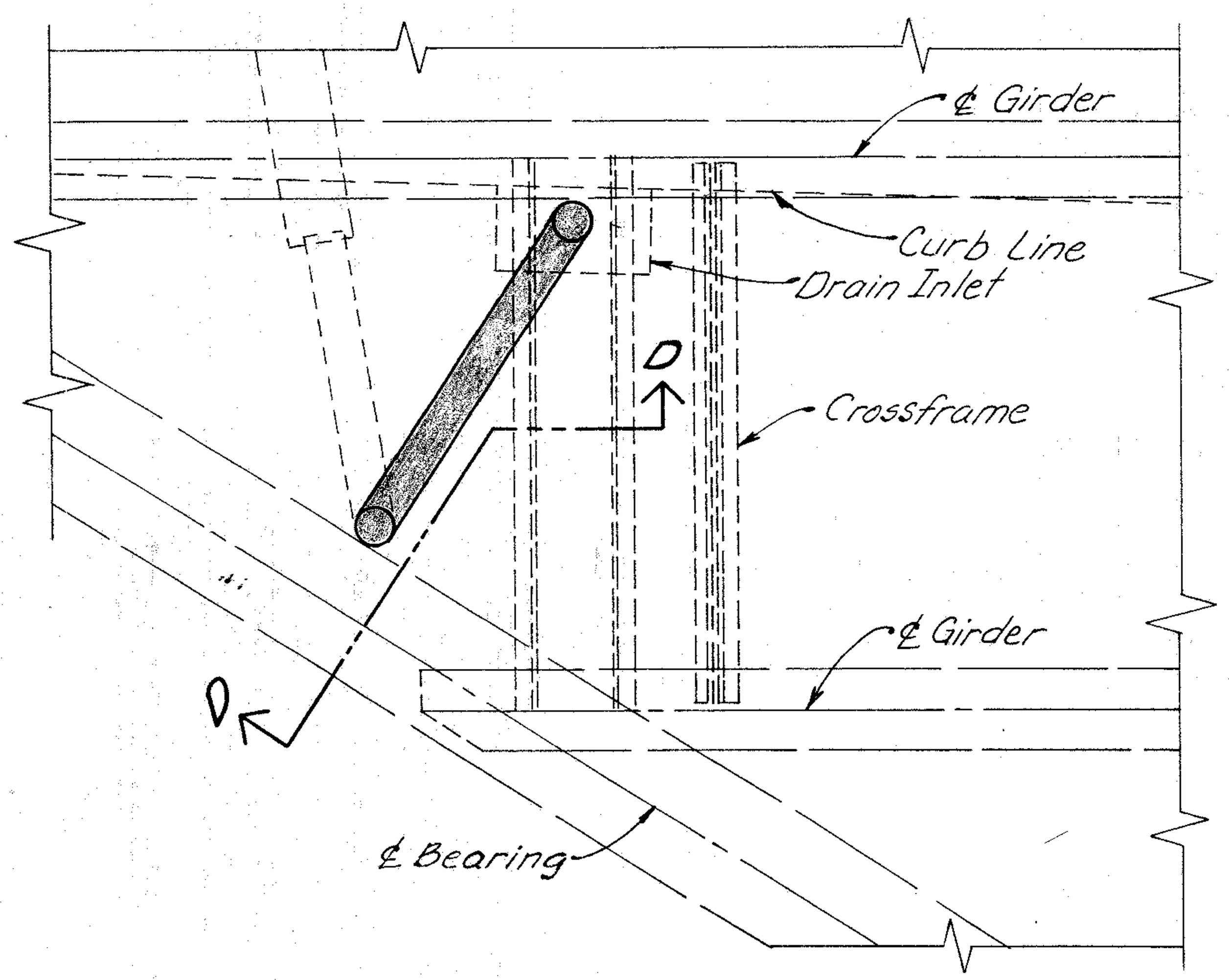
BRIDGE NO. HAM-0192 L/R OVER RAMP "GD"

HAMILTON COUNTY

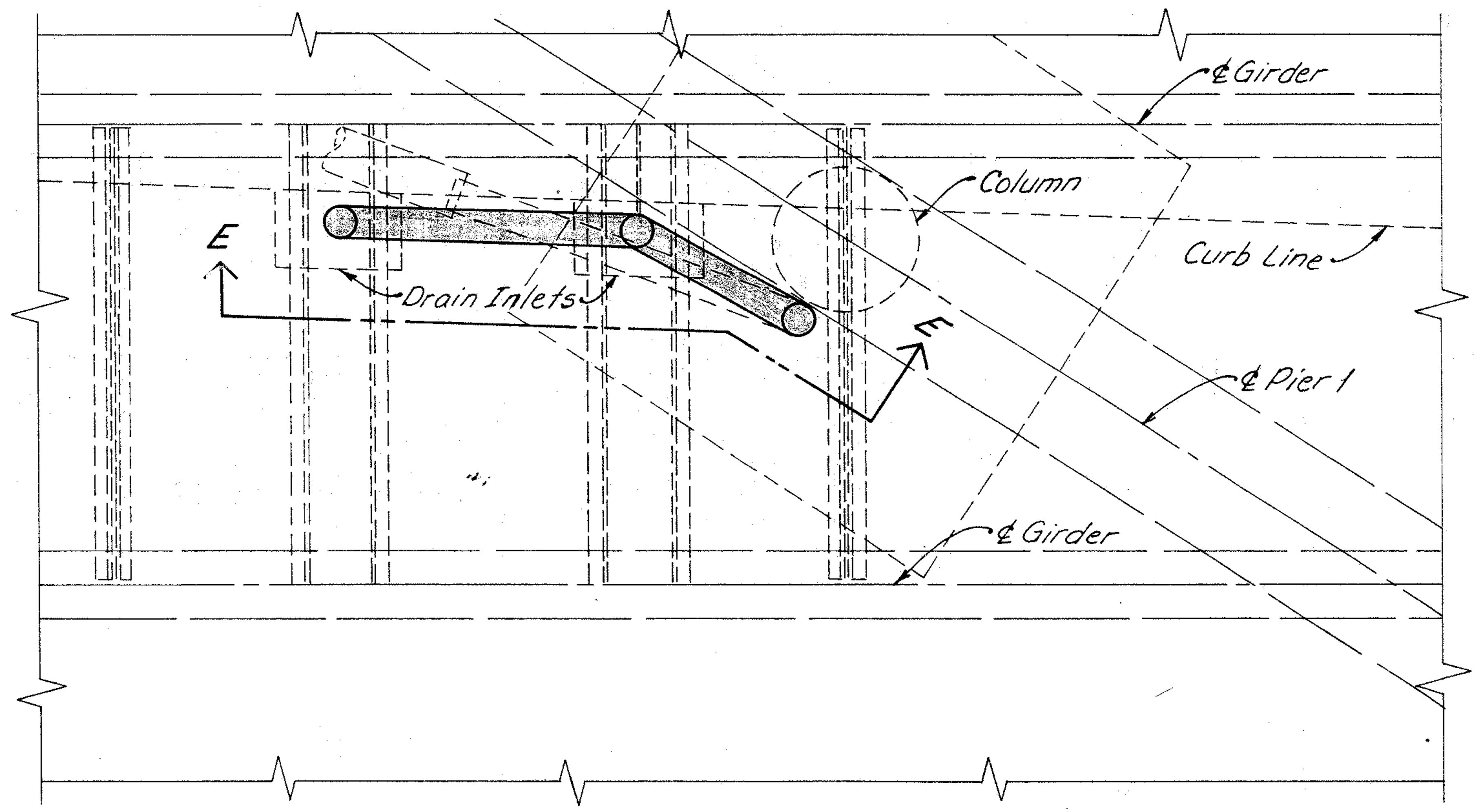
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

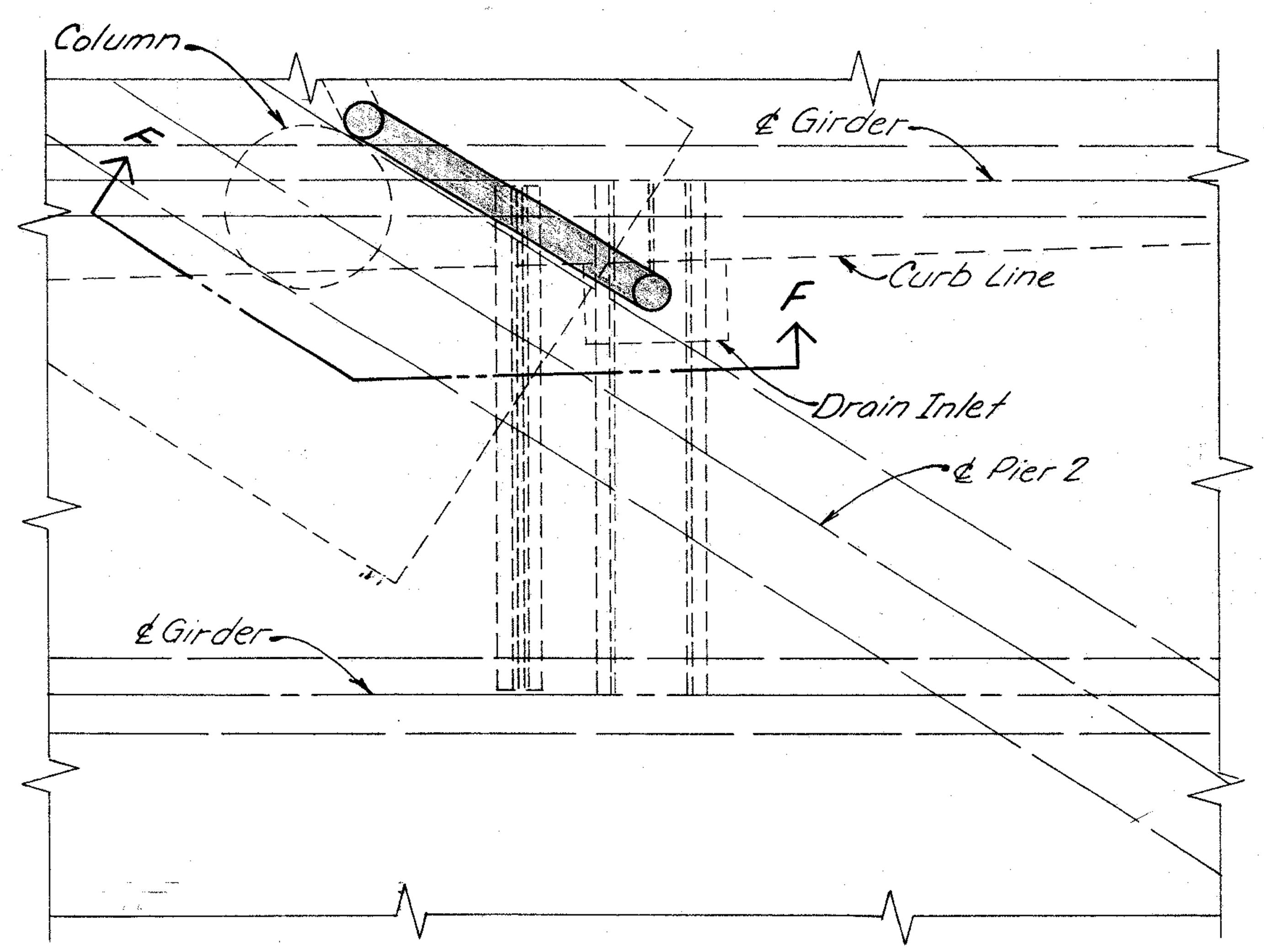
HAM-71-1.30/9.0



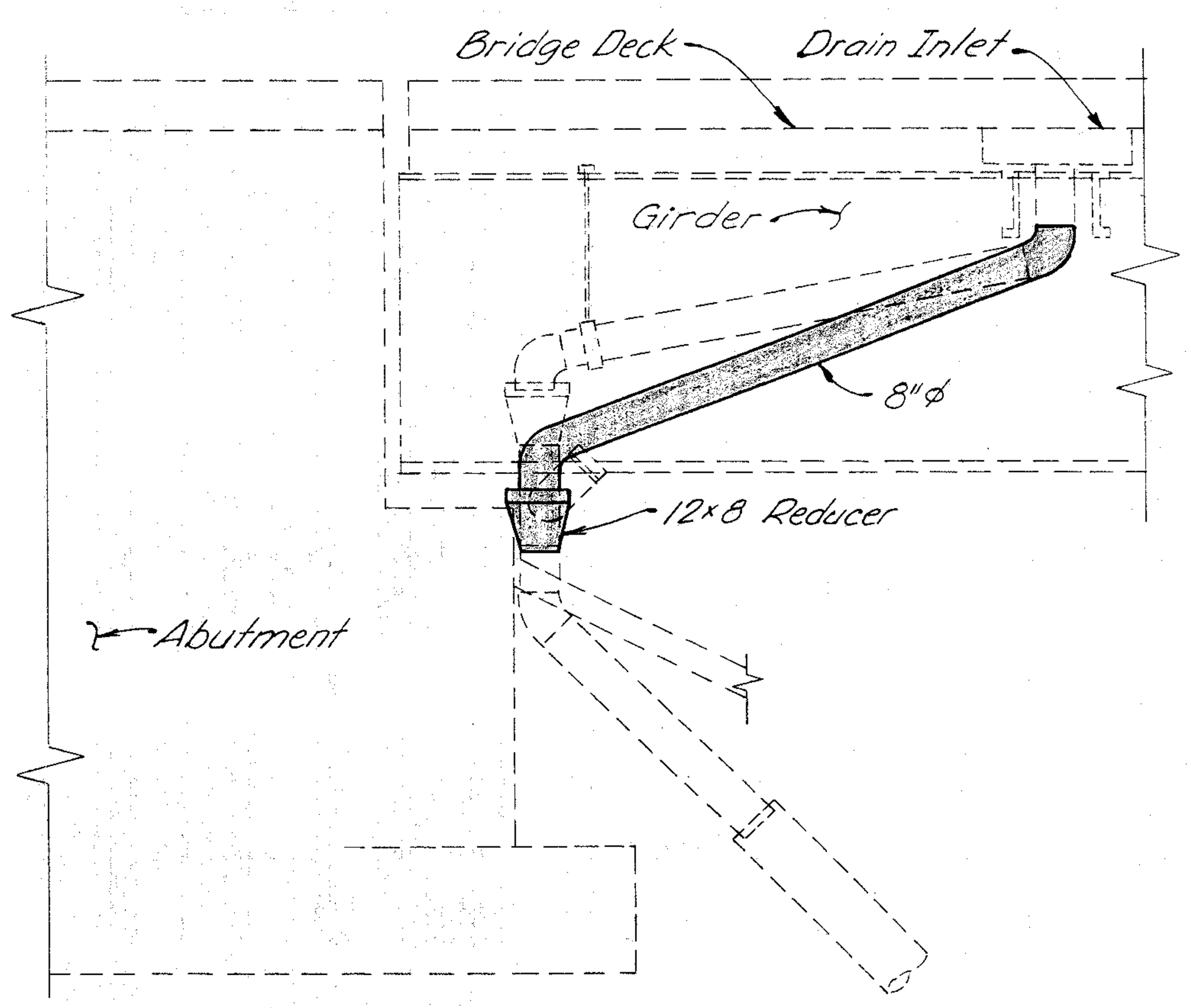
PLAN FOR DRAIN INLET AT
S. ABUT. OF NORTH BOUND ROADWAY



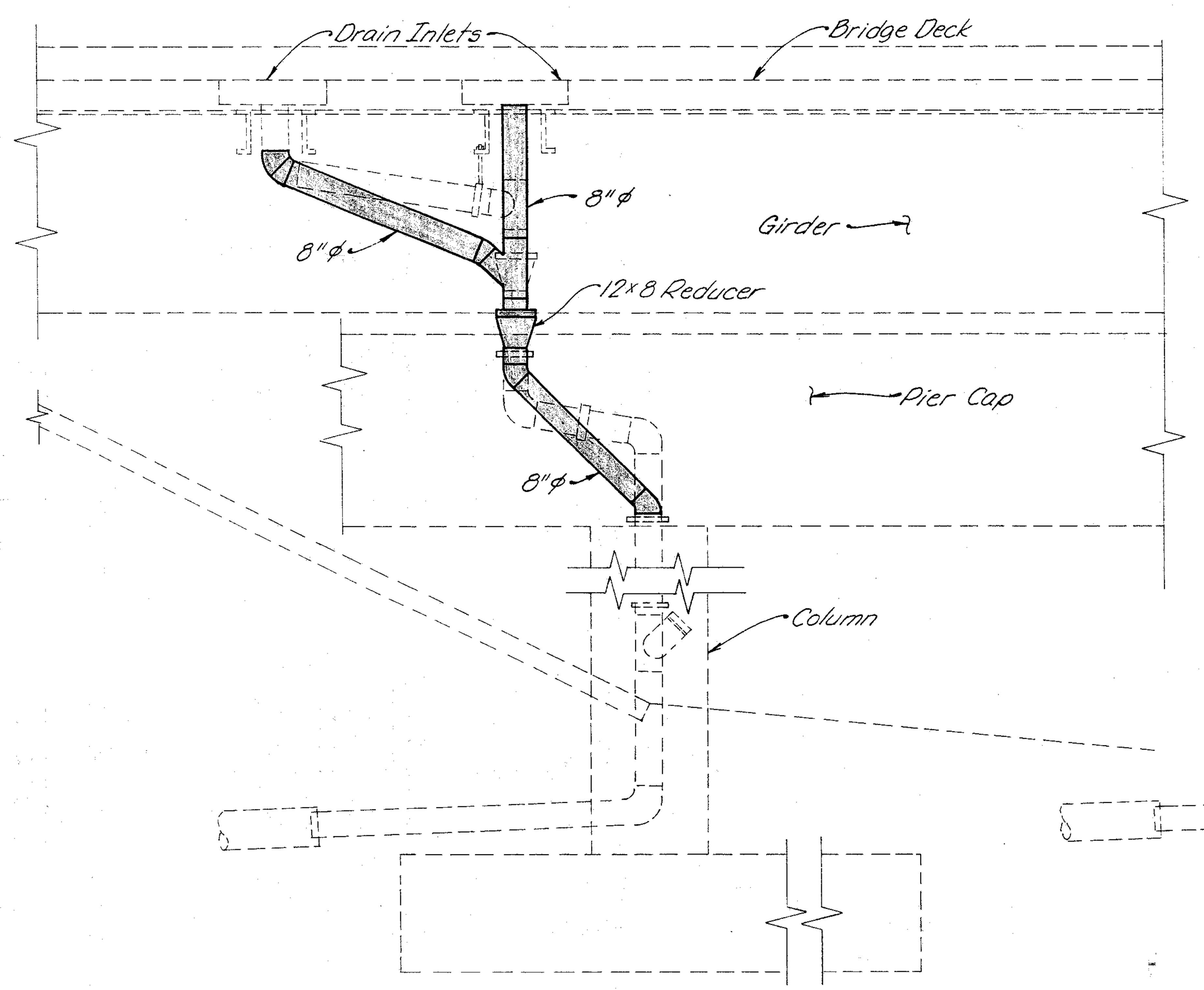
PLAN FOR DRAIN INLET AT
PIER NO. 1 OF NORTH BOUND ROADWAY



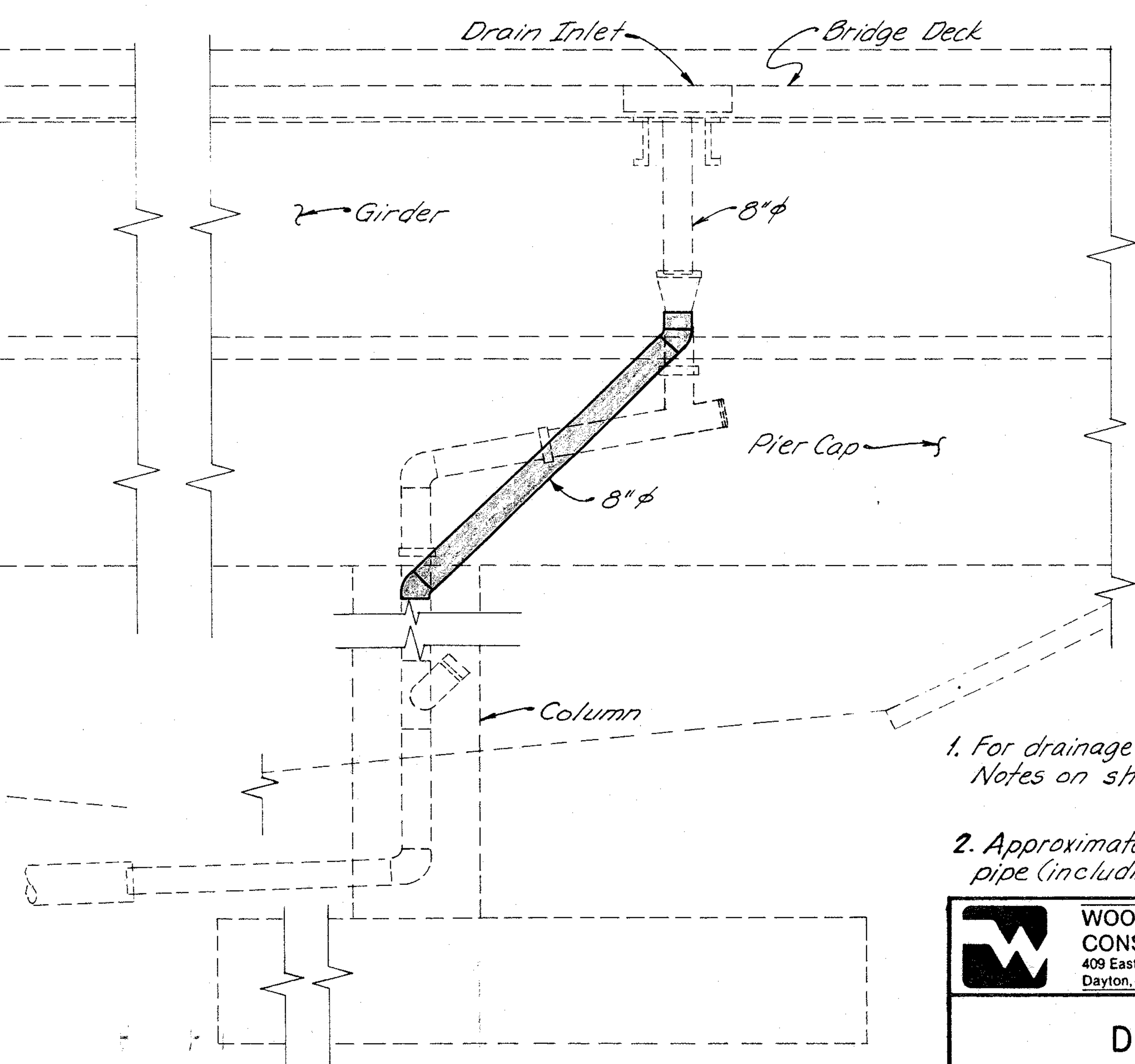
PLAN FOR DRAIN INLET AT
PIER NO. 2 OF NORTH BOUND ROADWAY



SECTION D-D



SECTION E-E



SECTION F-F

1. For drainage piping requirements see General Notes on sht. 272/401
2. Approximate No of Linear Feet of proposed 8"ϕ pipe (including specials) = 75'

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409 East Monument Avenue
Dayton, Ohio 45402-1226

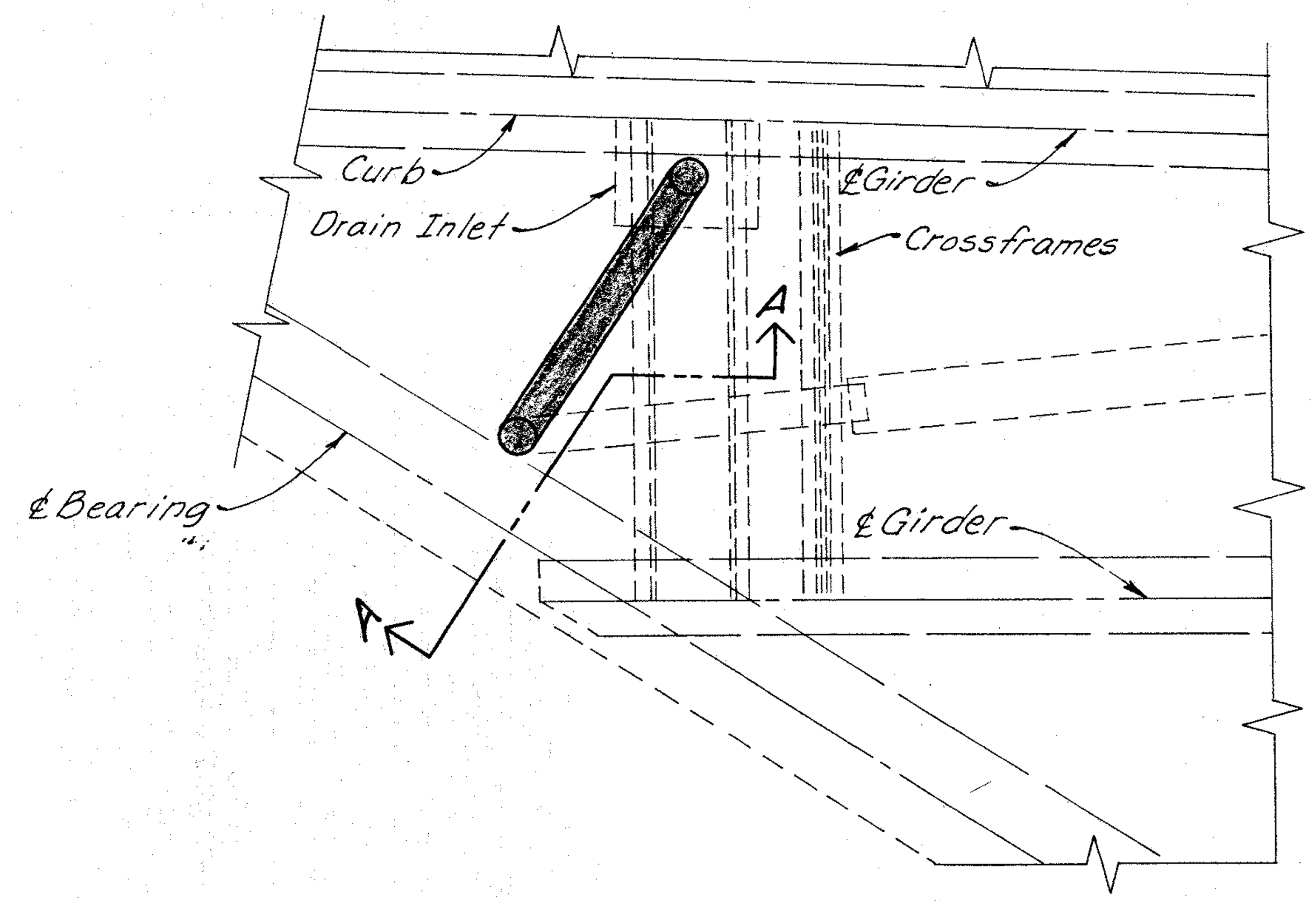
8/9

DRAINAGE DETAILS

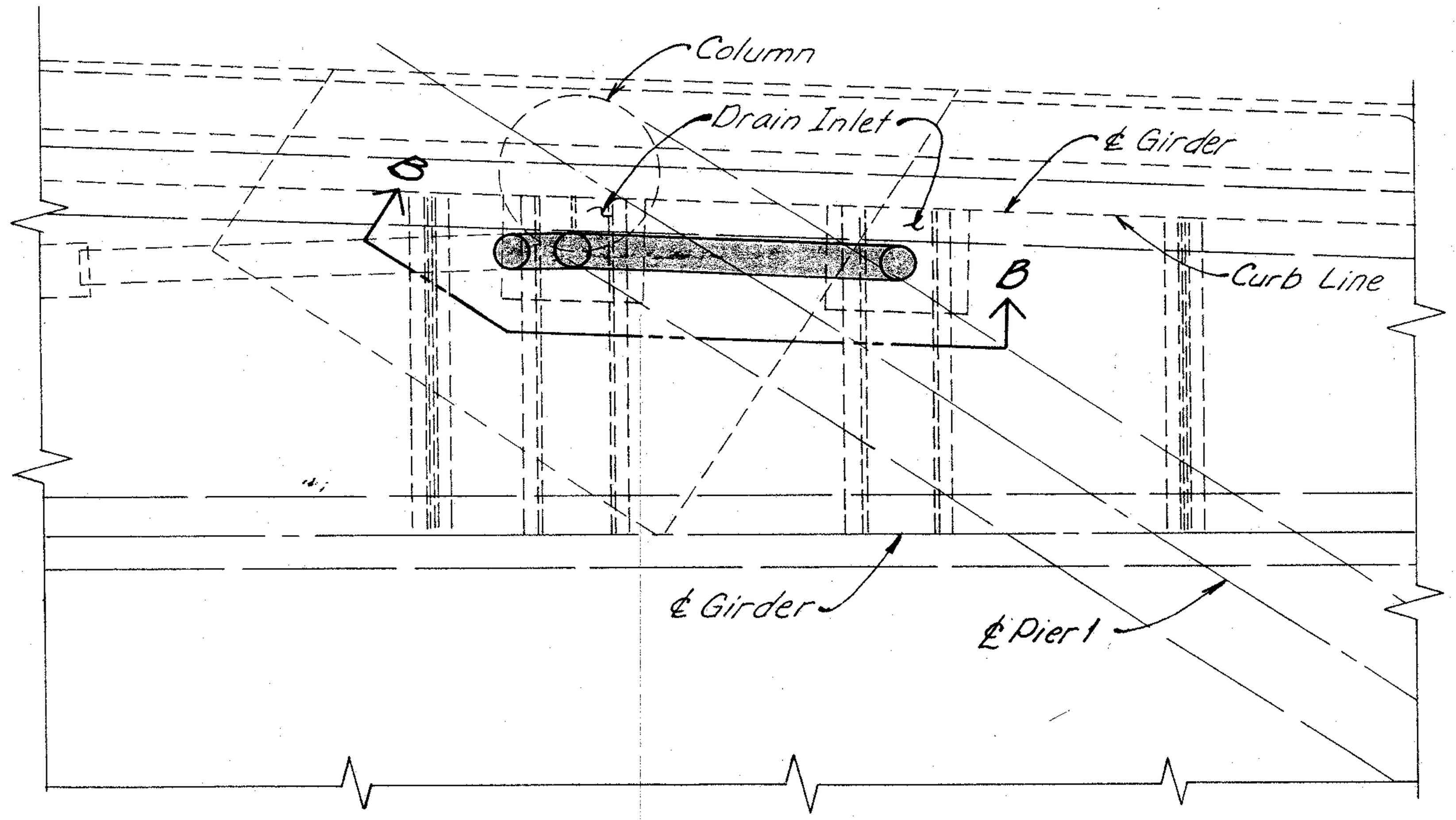
BRIDGE NO. HAM-71-0192 L/R
OVER RAMP GD

HAMILTON COUNTY

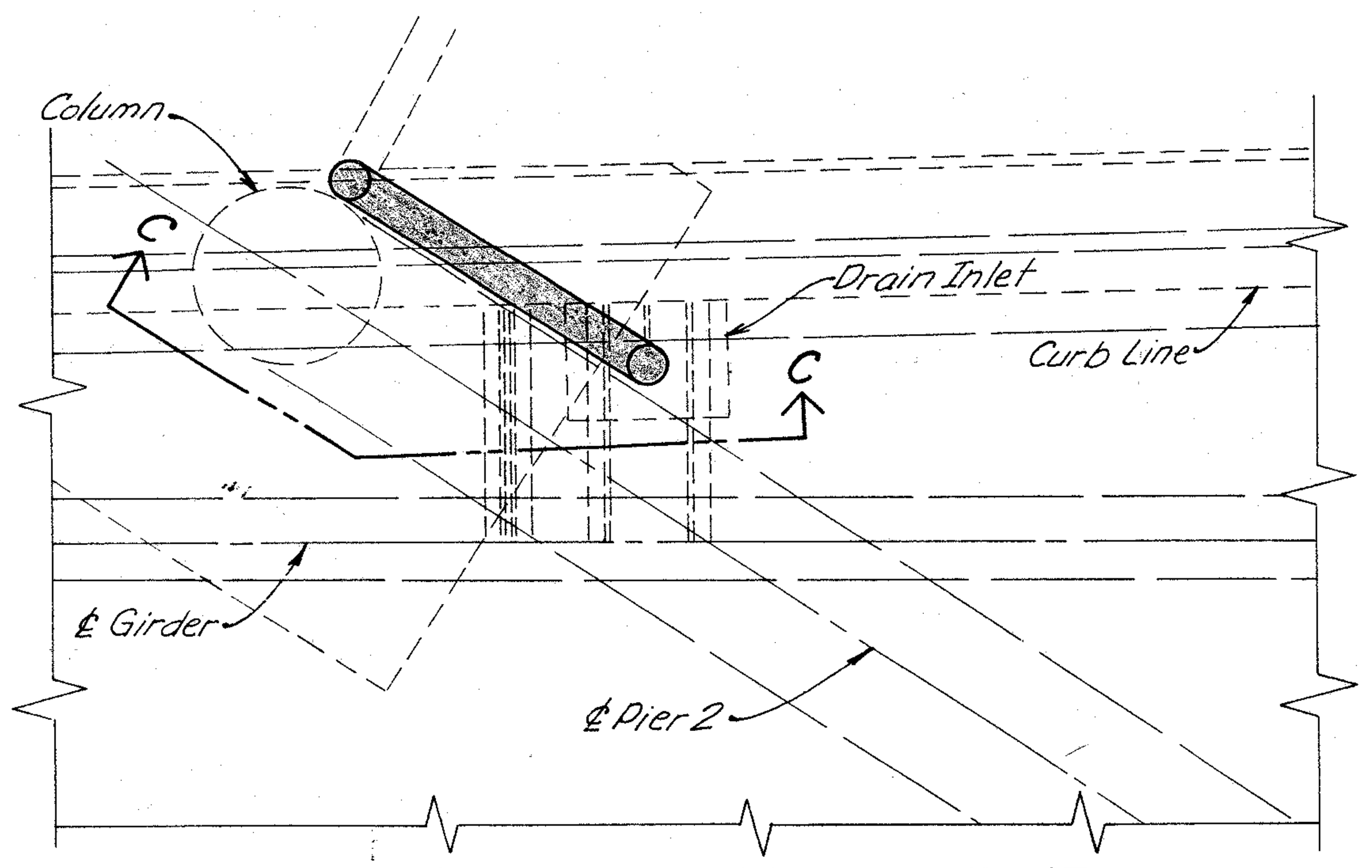
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.E.M.	L.A.P.		D.E.M.	P.W.G.	11/11/94	



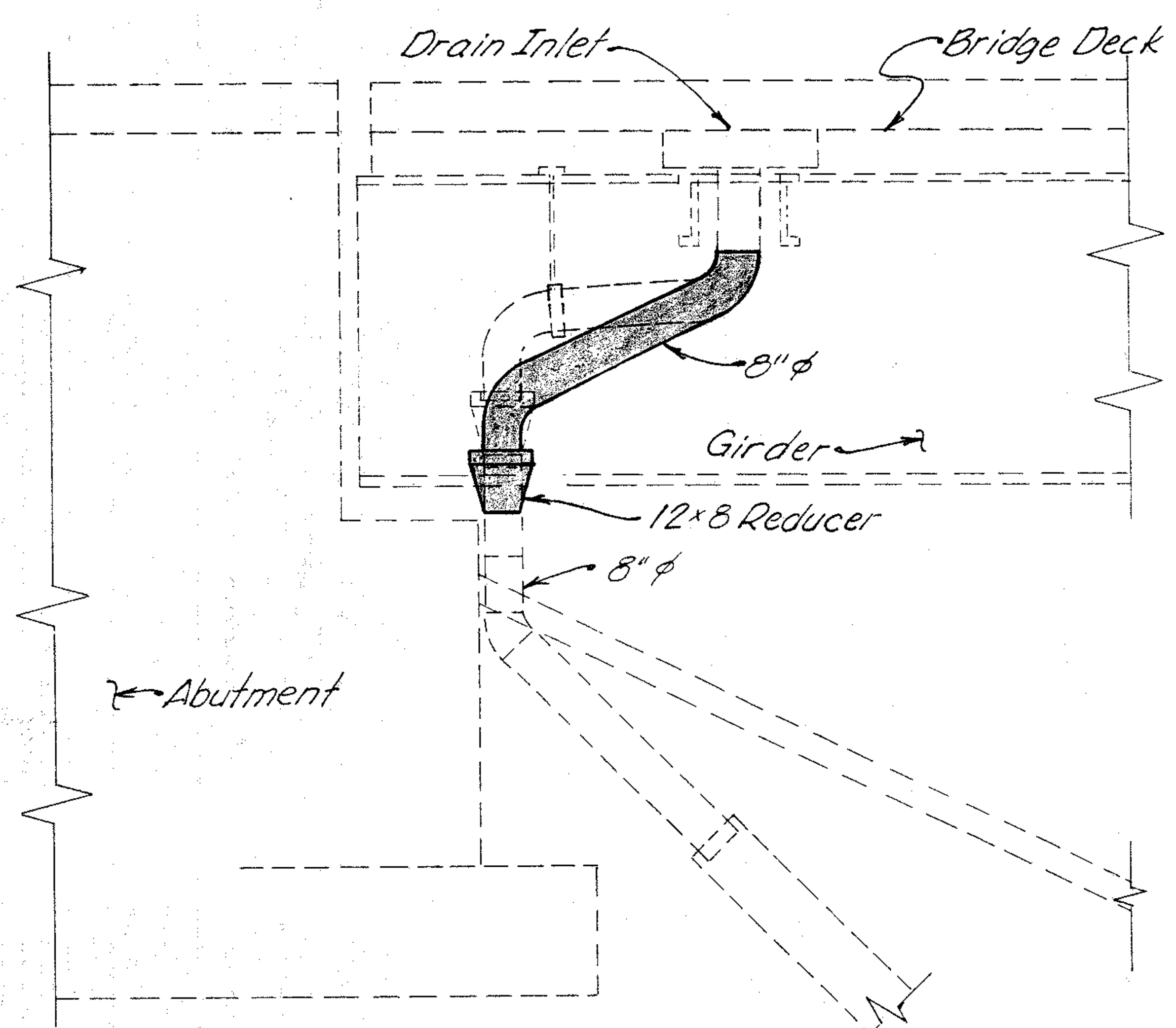
PLAN FOR DRAIN INLET AT
S. ABUT. OF SOUTH BOUND ROADWAY



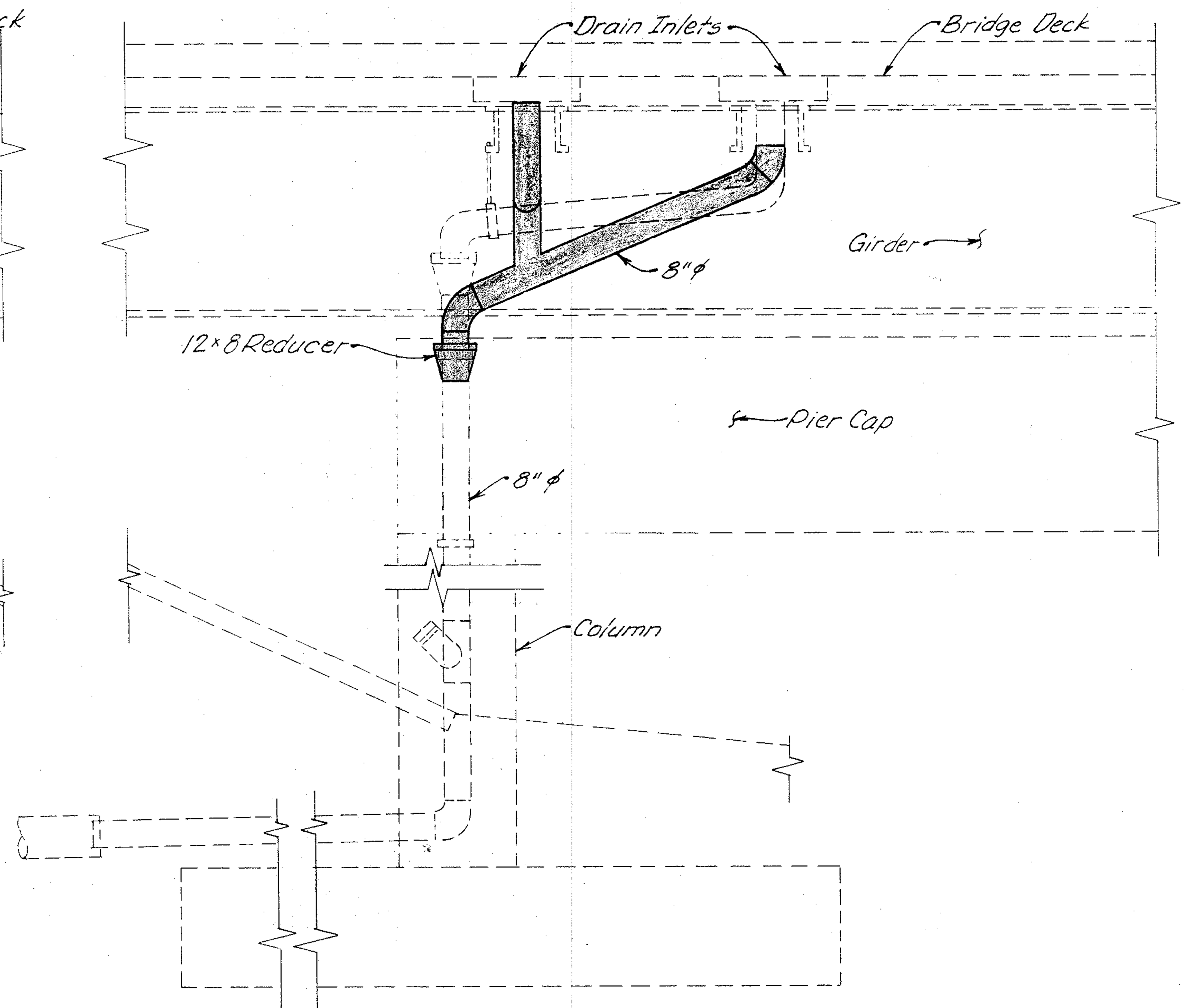
PLAN FOR DRAIN INLET AT
PIER NO. 1 OF SOUTH BOUND ROADWAY



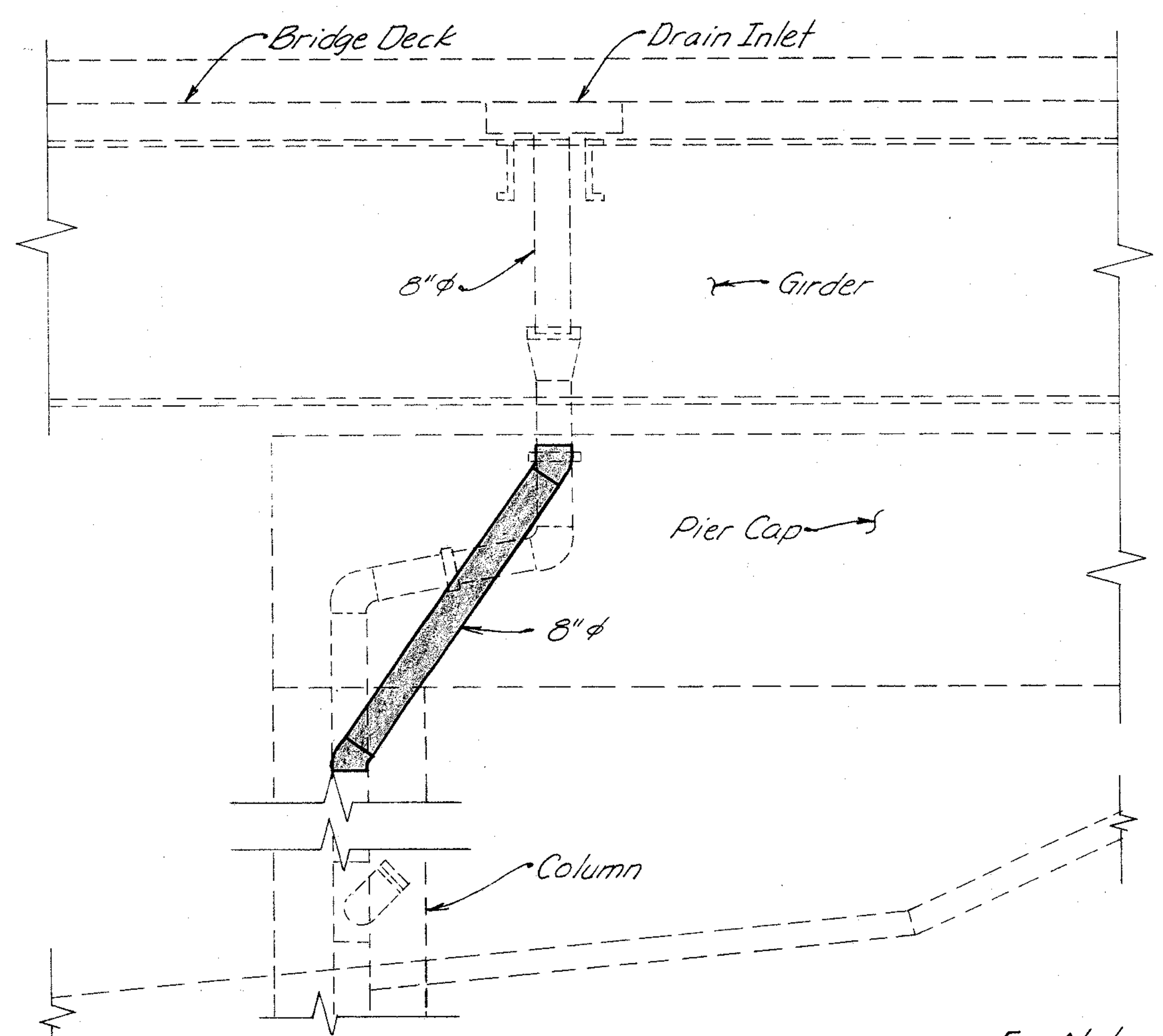
PLAN FOR DRAIN INLET AT
PIER NO. 2 OF SOUTH BOUND ROADWAY



SECTION A-A



SECTION B-B



SECTION C-C

For Notes see sht. 303/401

WOOLPERT CONSULTANTS
409 East Monument Avenue
Dayton, Ohio 45402-1226

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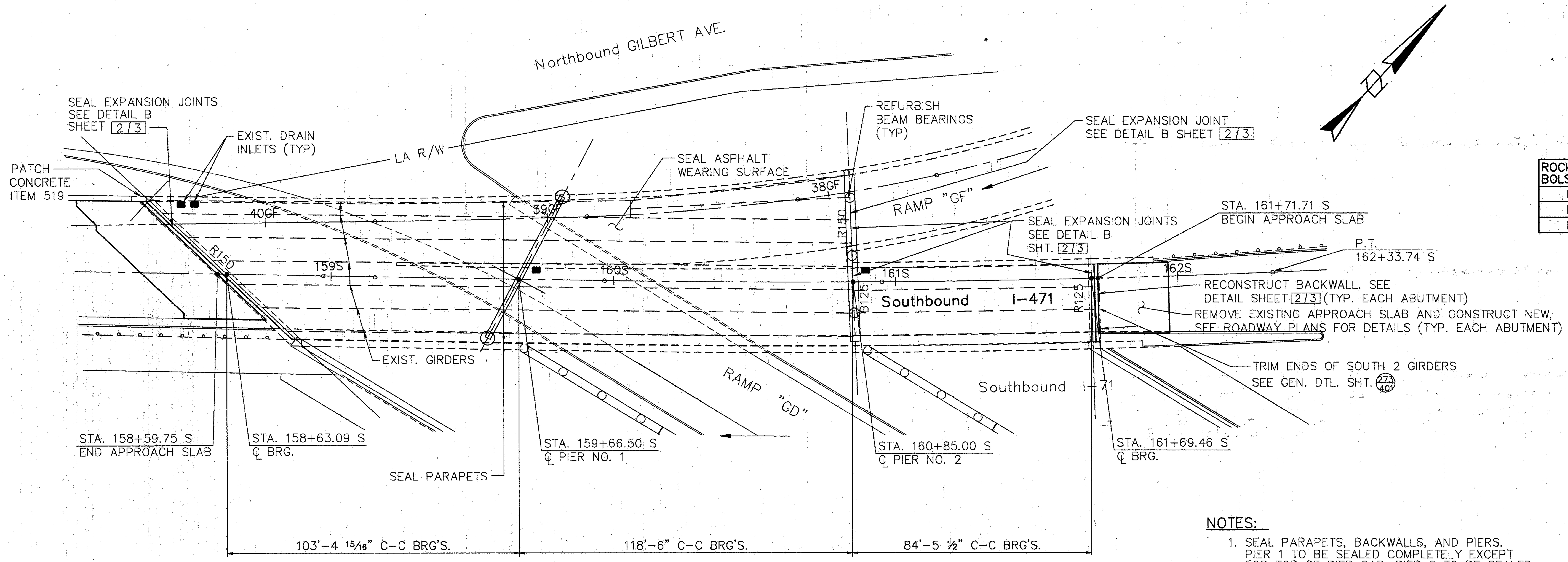
DRAINAGE DETAILS

BRIDGE NO. HAM-71-0192 L/R
OVER RAMP GD

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.E.M.	L.A.P.		D.E.M.	P.W.G.	11/11/94	

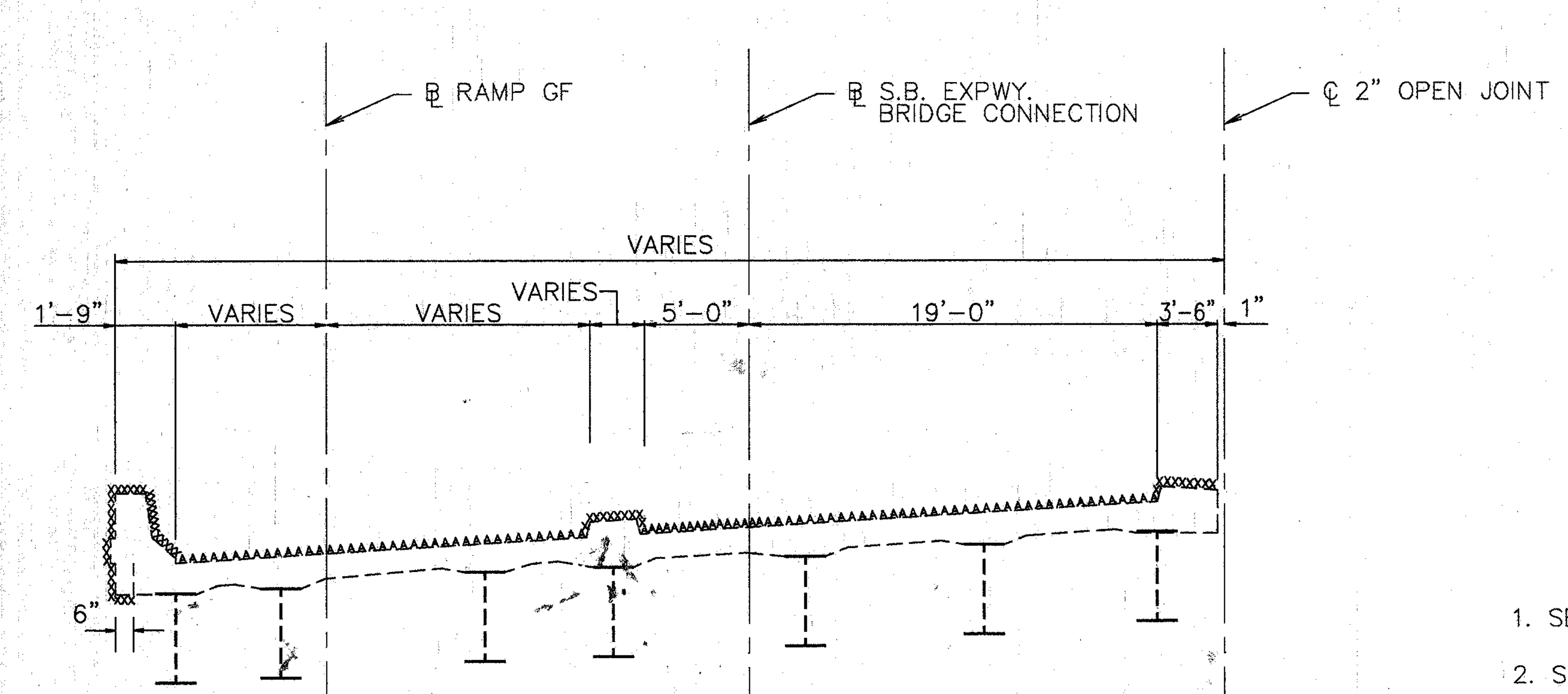


PLAN

ROCKER OR BOLSTER SIZE	JACK CAPACITY REQ'D. (MIN.)
B125	100 TON
R125	100 TON
R150	125 TON

NOTES:

1. SEAL PARAPETS, BACKWALLS, AND PIERS. PIER 1 TO BE SEALED COMPLETELY EXCEPT FOR TOP OF PIER CAP. PIER 2 TO BE SEALED EXCEPT FOR ¼ OF THE CIRCUMFERENCE AWAY FROM THE DIRECTION OF TRAFFIC.
2. MODIFY DRAINAGE PIPING, SEE DETAIL SHT. 3/3



TYP. BRIDGE SECTION

XXXX SURFACES TO BE SEALED UNDER ITEM SPECIAL, SEALING OF CONCRETE SURFACES.

AAAA SURFACES TO BE SEALED UNDER ITEM SPECIAL, WATERPROOFING, MISC.: SEALING OF ASPHALT WEARING SURFACE.

PROPOSED WORK

1. SEAL PARAPETS, PIERS, AND BACKWALL.
2. SEAL ASPHALT WEARING SURFACE AND EXPANSION JOINT.
3. SEAL EXP. JOINTS WITH SEALANT.
4. RECONSTRUCT BACKWALLS ABOVE APPROACH SLAB SEAT.
5. REFURBISH DRAINAGE PIPING.
6. REFURBISH ALL ABUTMENT BEARINGS AND BEARINGS ON PIER 2.
7. TRIM BEAM ENDS.
8. ONE LANE OF TRAFFIC SHALL BE MAINTAINED ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTENANCE OF TRAFFIC PLANS.
9. OTHER WORK AS DESCRIBED IN THESE PLANS.

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL GIRDER (SPAN 1 & 2) SIMPLE SPAN STEEL GIRDER (SPAN 3) WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: 103.41', 118.50', & 84.46' C/C BRGS.

ROADWAY: VARIES, SEE PLAN
SKEW: VARIES, SEE PLAN
LOADING FREQUENCY: HS 20-44 AND THE INTERSTATE ALTERNATE LOADING
WEARING SURFACE: 1 1/2" ASPHALT CONCRETE
APPROACH SLABS: AS-1-67 (25'-0" LONG)
ALIGNMENT: VARIES, SEE PLAN
SUPERELEVATION: VARIES, SEE PLAN

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409 E. MONUMENT AVENUE
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GENERAL PLAN

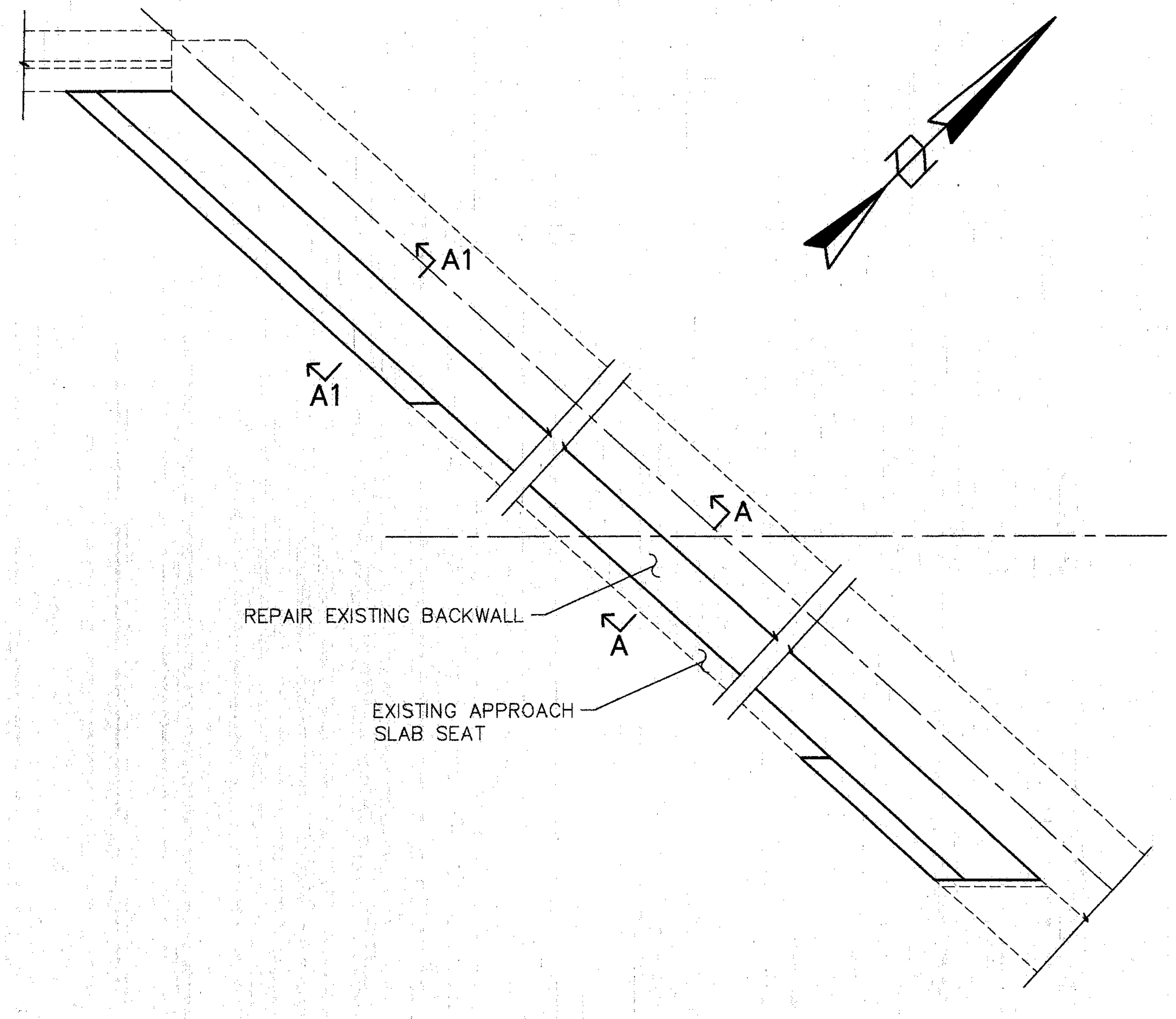
BRIDGE NO. HAM-71-0192W
BRIDGE CONNECTION & RAMP OVER RAMP 'GD'
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 1/11/94	

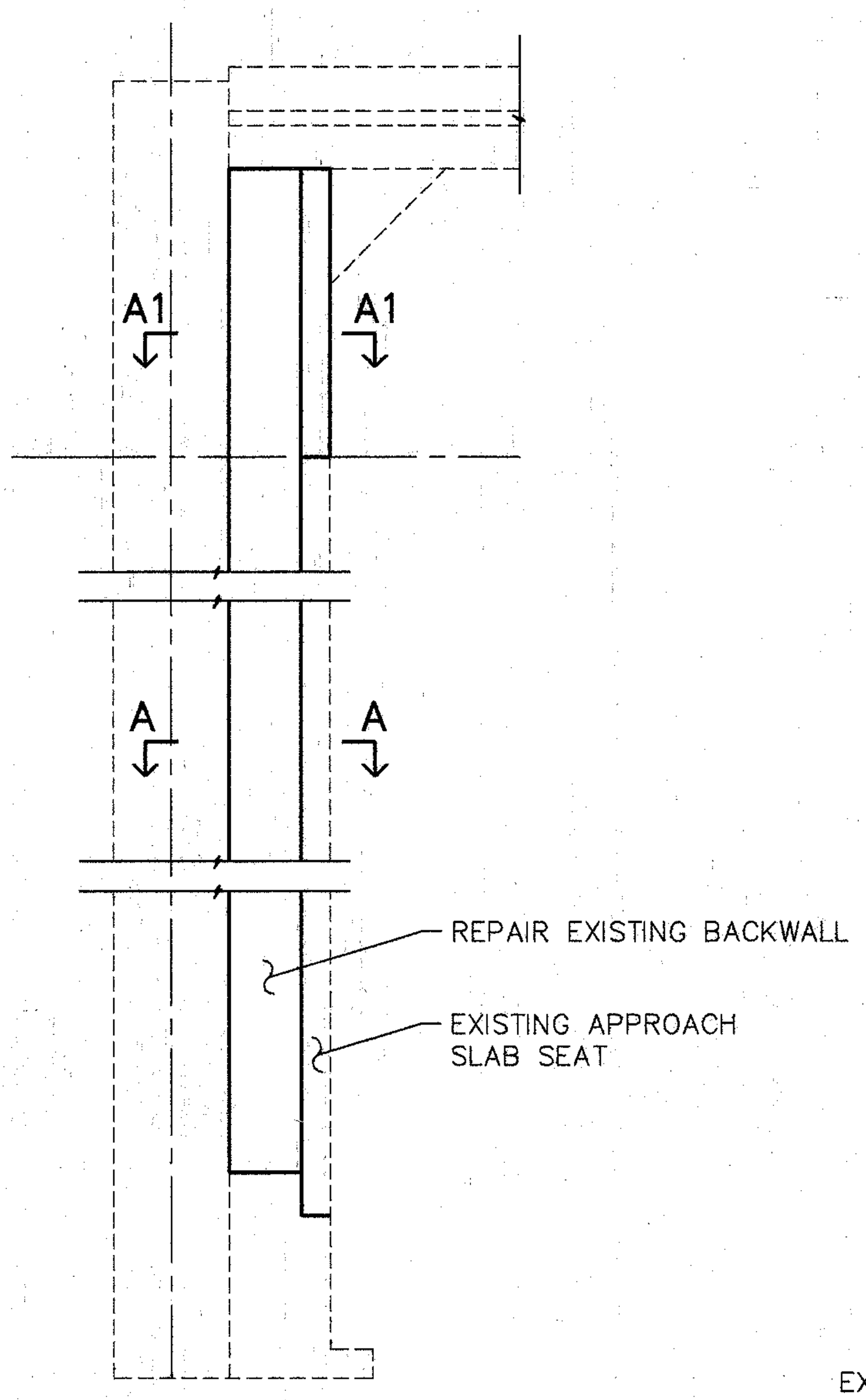
Last Plot: MAY 15, 1991 @ 4:29 PM Last Revision By: RACH MAR. 7, 1994 @ 1:45 PM

ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
509	15820	741	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
510	12201	71	L.F.	DOWEL HOLES AS PER PLAN.
514	27704	LUMP	L.S.	FIELD PAINTING EXISTING STEEL, EEU *
511	45700	6	C.Y.	CLASS C CONCRETE (RECONSTRUCTION) ABUTMENT
SPECIAL	51267200	1384	S.Y.	WATERPROOFING, MISC: SEALING ASPHALT WEARING SURFACE
SPECIAL	51267500	508	S.Y.	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	136	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
513	21000	4	EACH	TRIMMING OF BEAM END
516	14600	50	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2"x4" SEALER, AS PER PLAN
516	31000	139	L.F.	JOINT SEALER, 705.04
516	45304	19	EACH	REFURBISH BEARING DEVICE
518	63300	LUMP SUM	L.S.	STRUCTURE DRAINAGE, MISC: MODIFY DRAINAGE PIPING
519	11100	4	S.F.	PATCHING CONCRETE STRUCTURES
516	14600	80	L.F.	SEAL JOINT BETWEEN ABUTMENT AND CONCRETE SLOPE PROTECTION
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
601	21100	3	S.Y.	REPAIR CONCRETE SLOPE PROTECTION

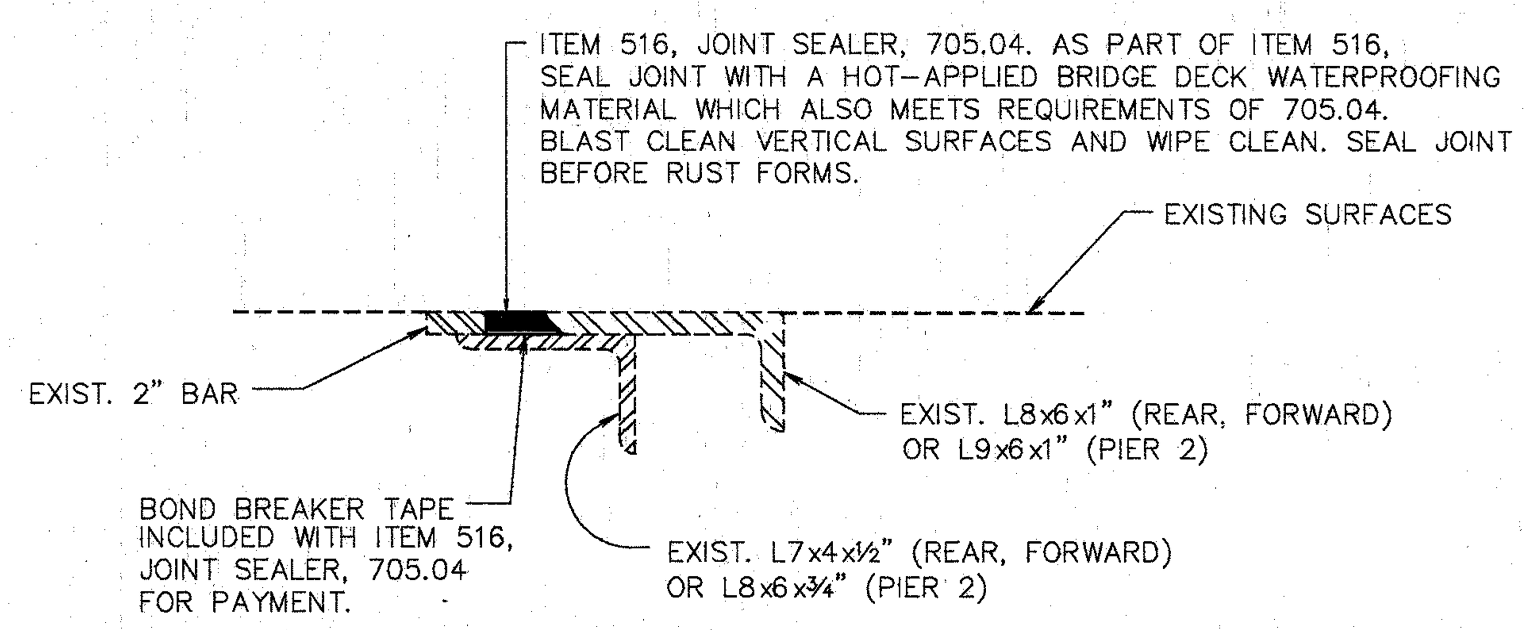
* SEE PROPOSAL NOTE



FORWARD ABUTMENT



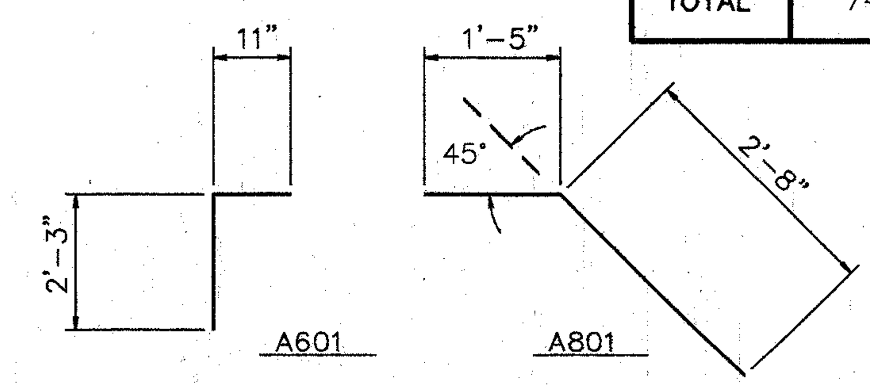
REAR ABUTMENT

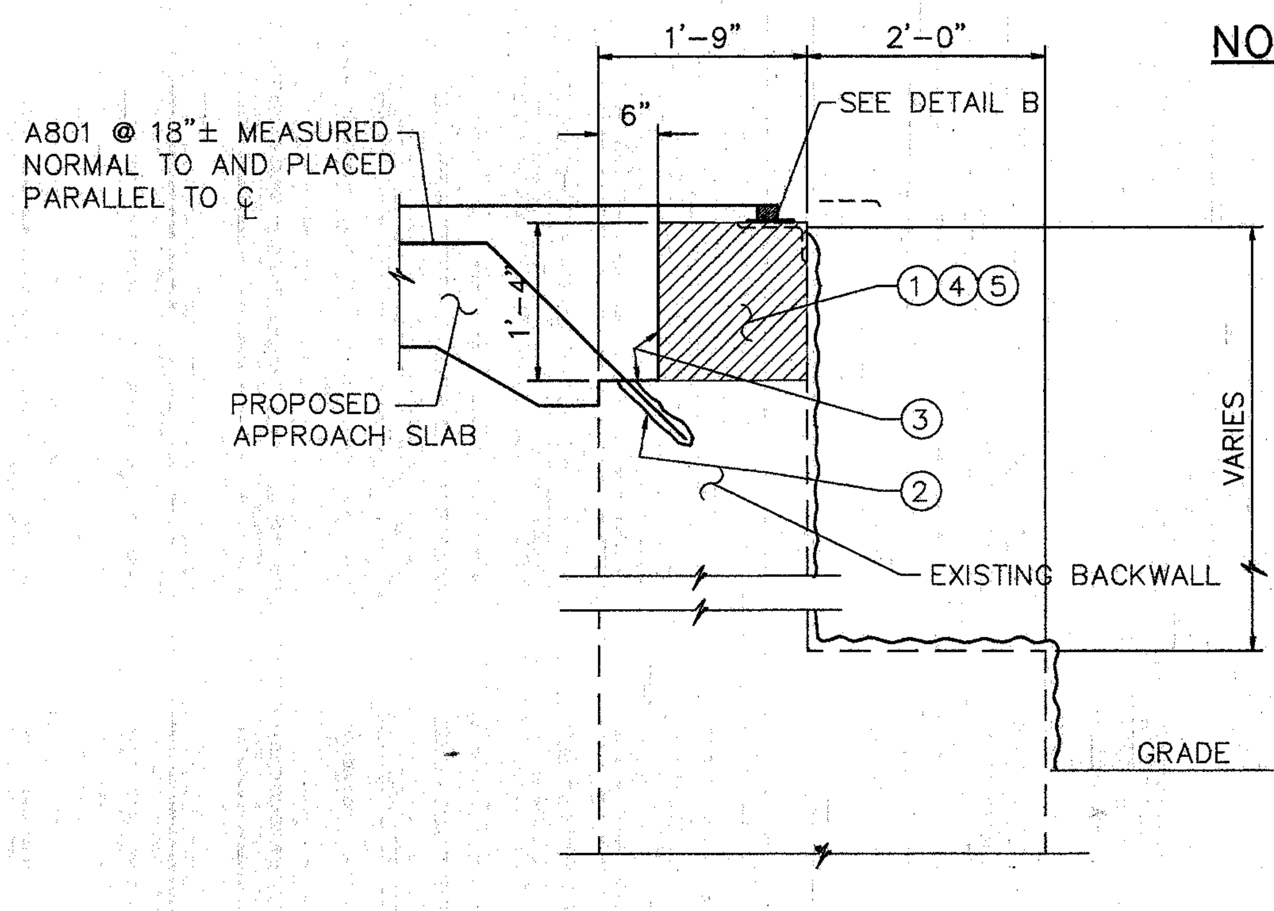


DETAIL B

REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A501	STR.	1	7'-6"	8
A502	STR.	1	8'-0"	8
A503	STR.	1	14'-6"	15
A601	BNT.	24	3'-0"	108
A801	BNT.	7	4'-0"	502
REPLACEMENT STEEL				100
			TOTAL	741





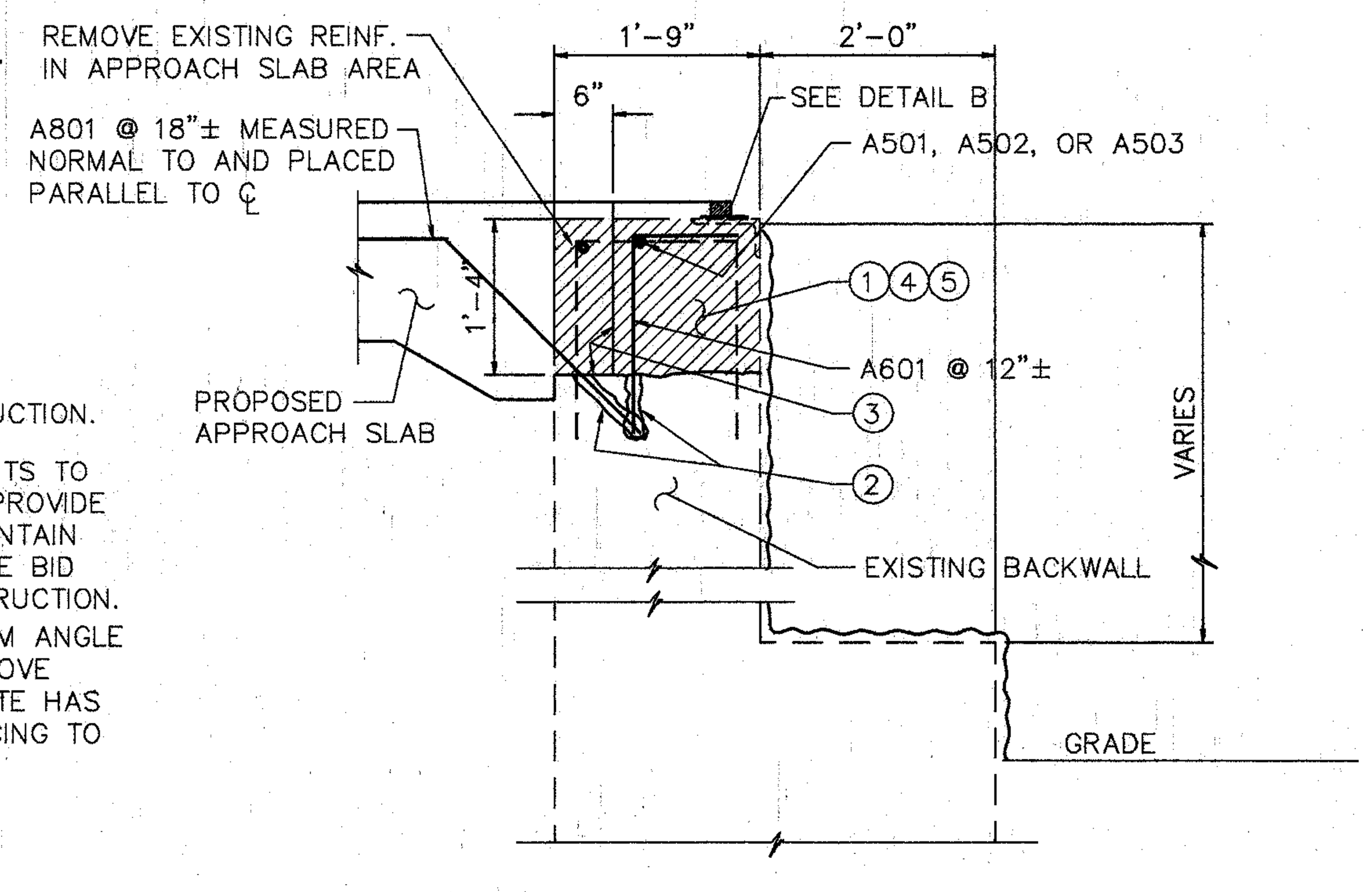
SECTION A-A

NOTES FOR SECTION A-A & A1-A1

1. EXISTING REINFORCING STEEL TO REMAIN ~ REINFORCING STEEL DAMAGED TO BE REPLACED AT CONTRACTORS EXPENSE.
2. 1' MIN. EMBEDMENT (SEE DOWEL HOLE GENERAL NOTE) ITEM 510.
3. TYPE 'A' WATERPROOFING (PAYMENT INCLUDED IN THE PRICE BID FOR APPROACH SLAB).
4. CLASS 'C' CONCRETE, ABUTMENT RECONSTRUCTION.
5. PROVIDE CONTRACTION AND EXPANSION JOINTS TO MATCH THOSE IN EXISTING BACKWALL AND PROVIDE CONSTRUCTION JOINTS AS REQUIRED TO MAINTAIN TRAFFIC. PAYMENT TO BE INCLUDED IN PRICE BID FOR ITEM 511 CLASS C CONCRETE RECONSTRUCTION.
6. PROVIDE TEMPORARY SUPPORT FOR END DAM ANGLE AT ABUTMENT DURING CONSTRUCTION. REMOVE TEMPORARY SUPPORT AS SOON AS CONCRETE HAS SET, PREFERABLY WITHIN 2HRS. AFTER PLACING TO TO AVOID DAMAGE DUE TO EXPANSION AND CONTRACTION OF SUPERSTRUCTURE.

EXISTING CONCRETE TO BE REMOVED INCLUDE IN ITEM 202 FOR PAYMENT.

SURFACE TO BE SEALED UNDER ITEM SPECIAL- 'SEALING OF CONCRETE SURFACE, EPOXY'.



SECTION A1-A1

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(513) 461-5660

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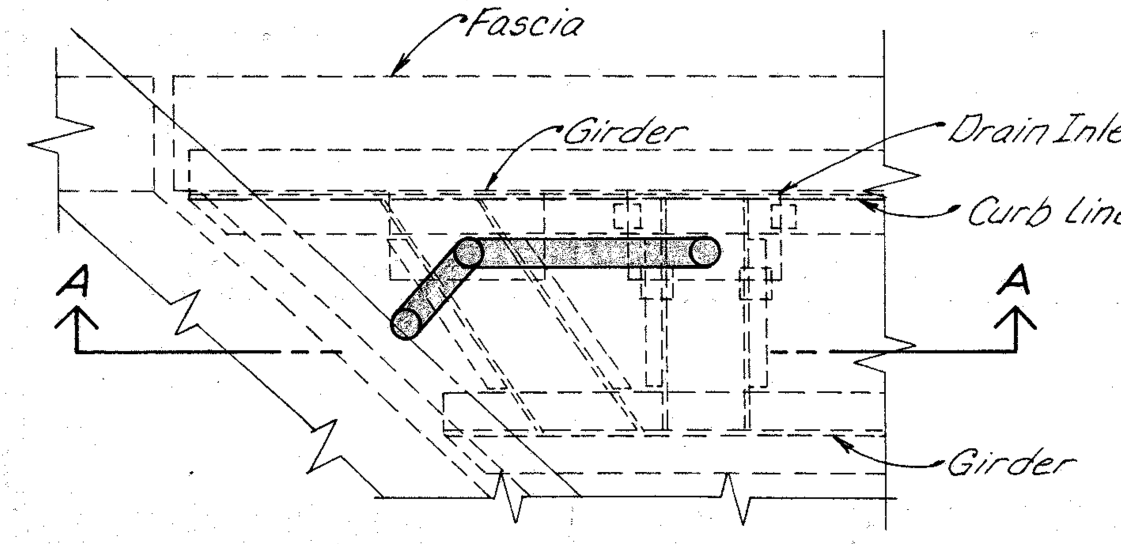
MISCELLANEOUS DETAILS

BRIDGE NO. HAM-71-0192W
BRIDGE CONNECTION & RAMP OVER RAMP 'GD'
HAMILTON COUNTY

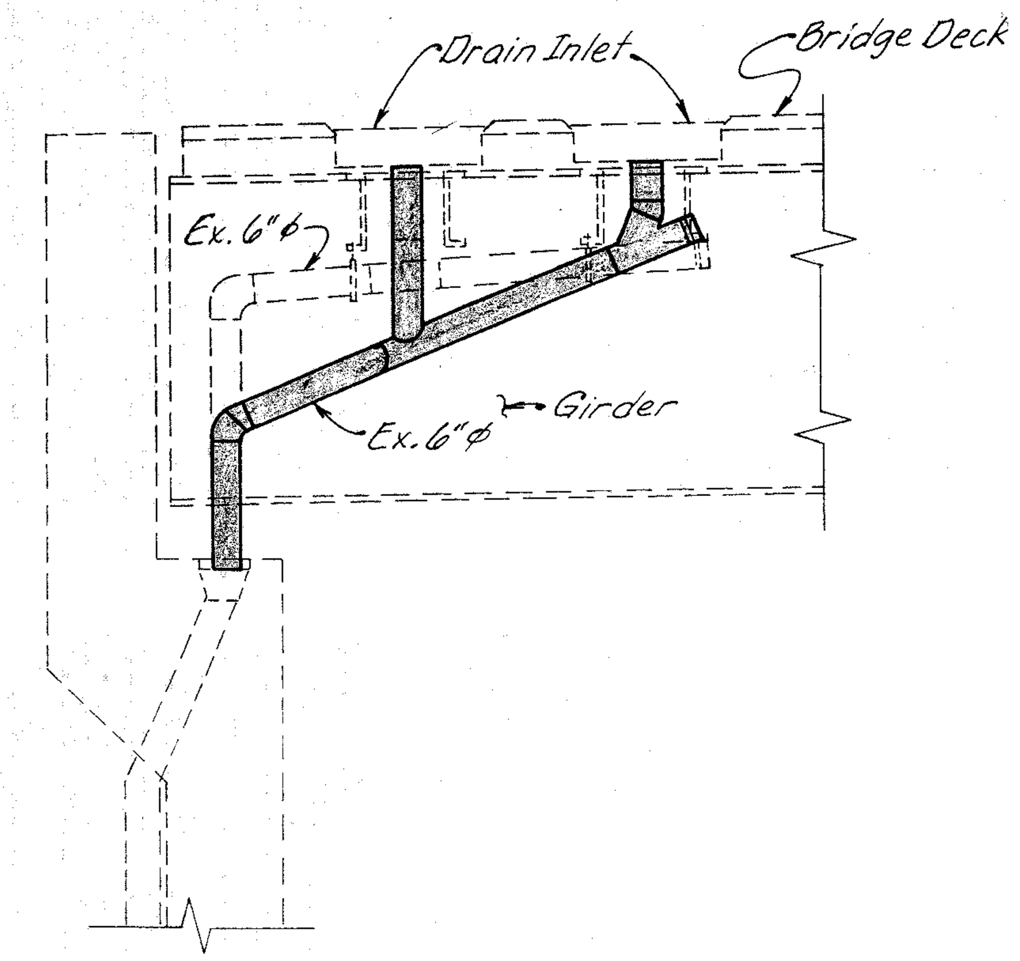
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	11/11/94	

F.H.W.A. REGION	STATE	PROJECT		307/401
5	OHIO			

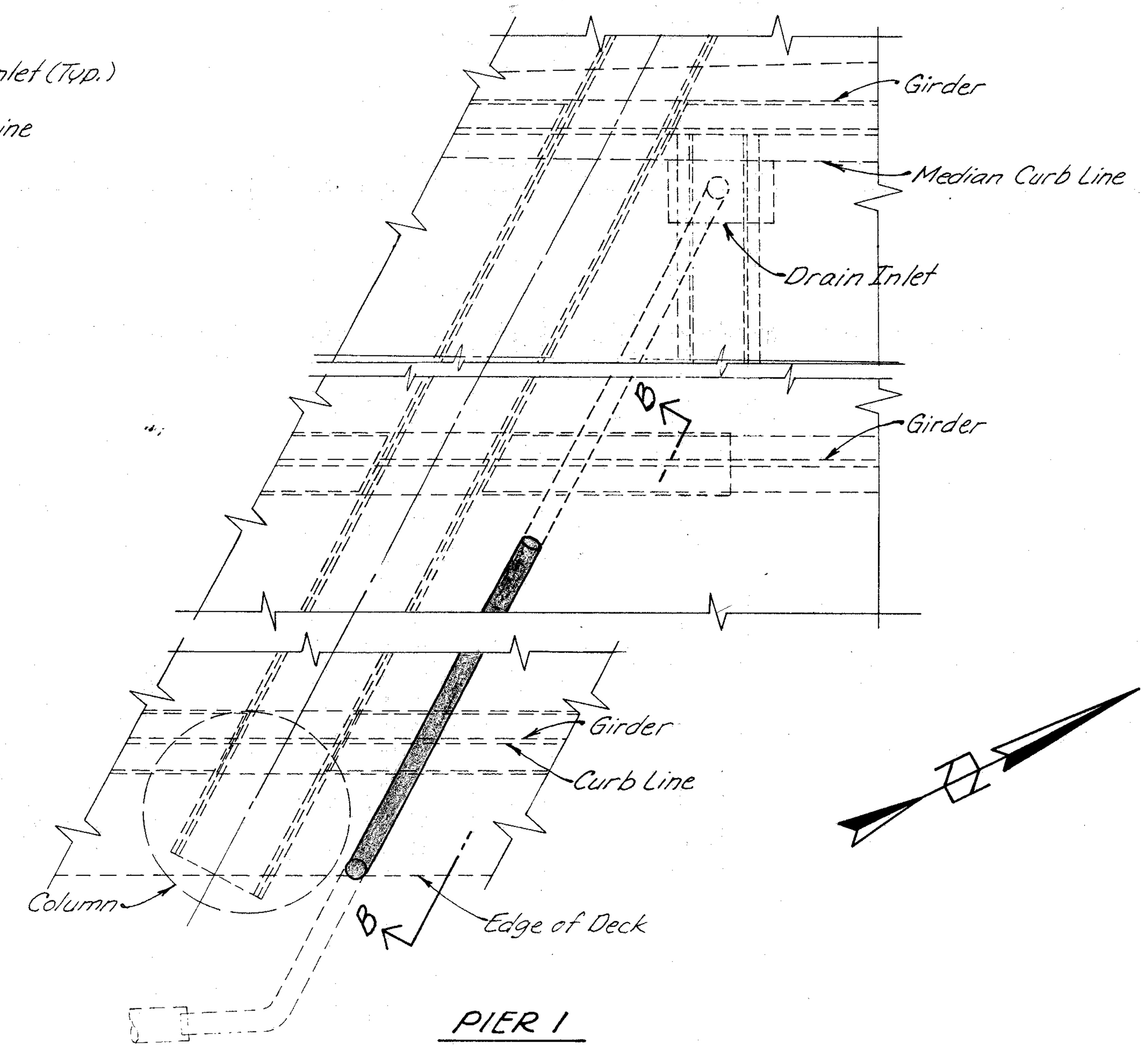
HAM-71-1.30/9.0



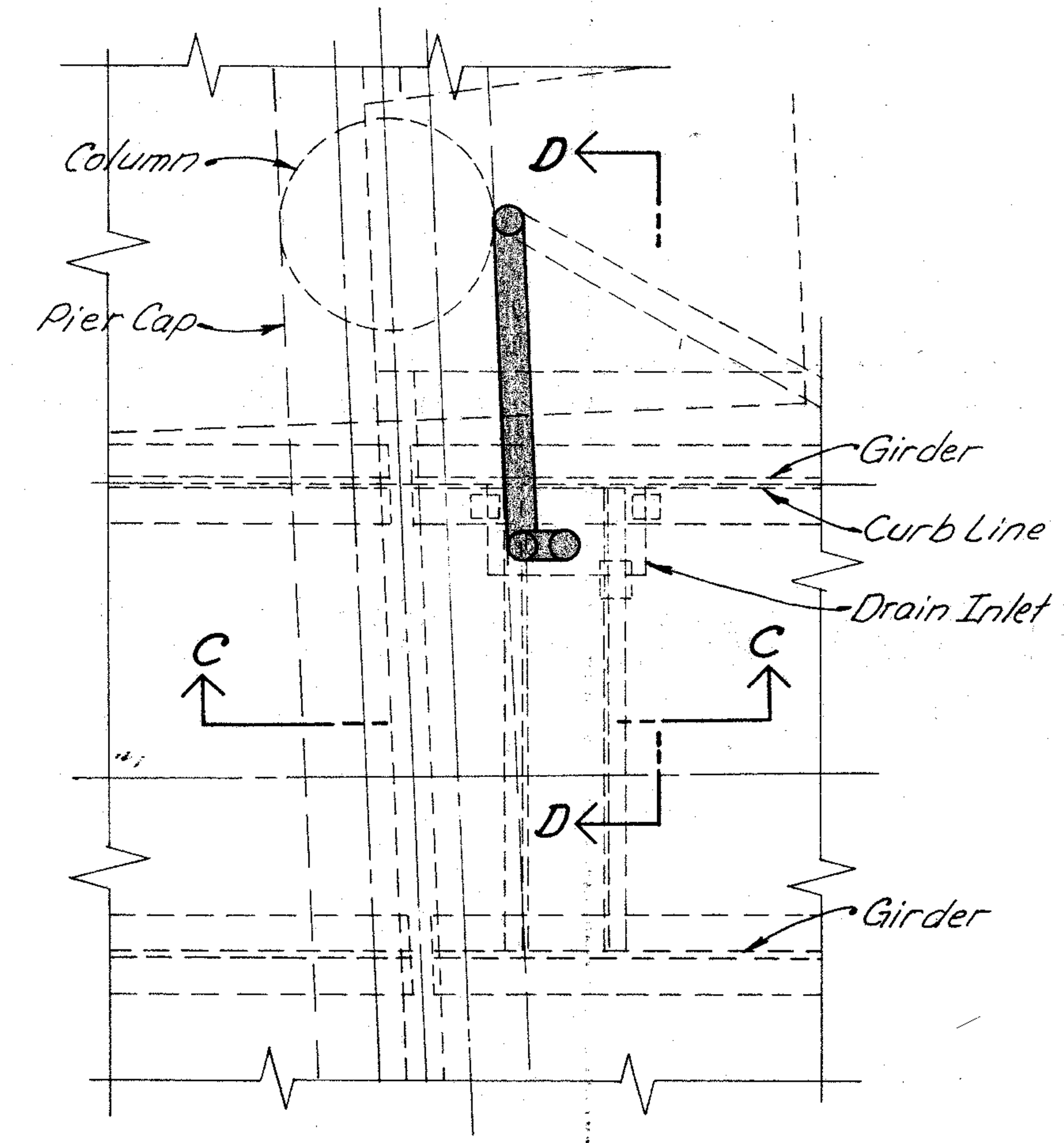
SOUTH ABUTMENT



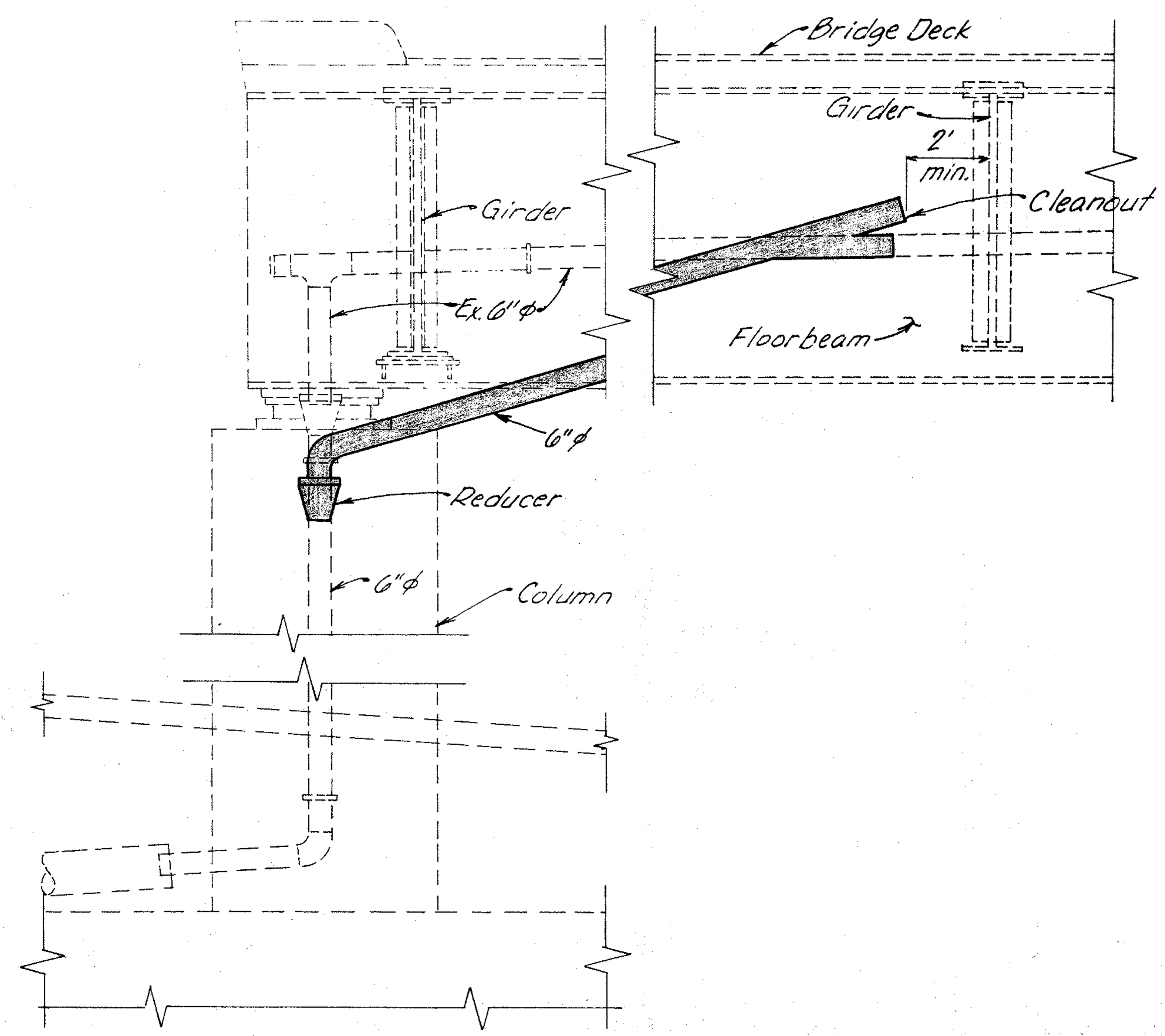
SECTION A-A



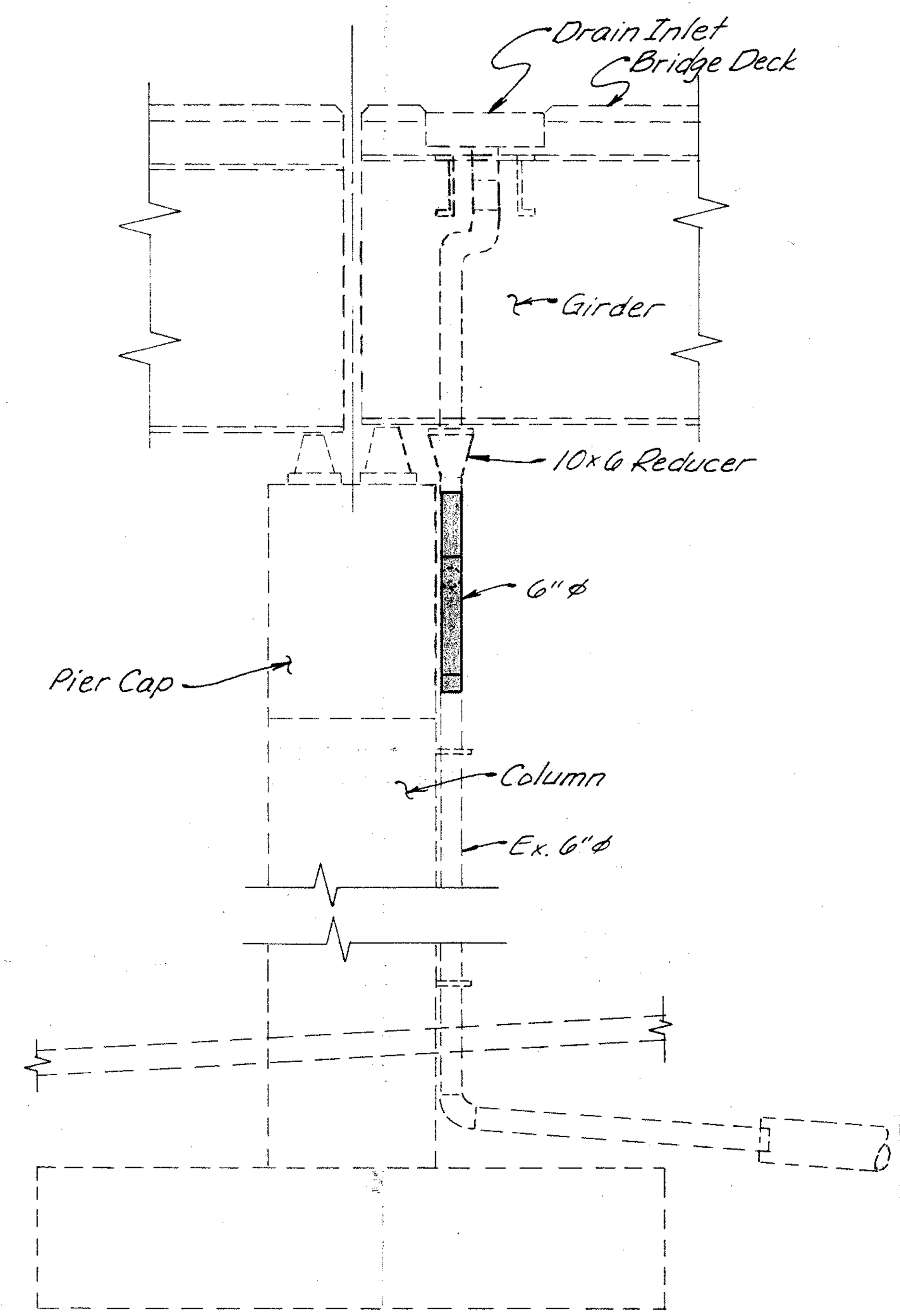
PIER 1



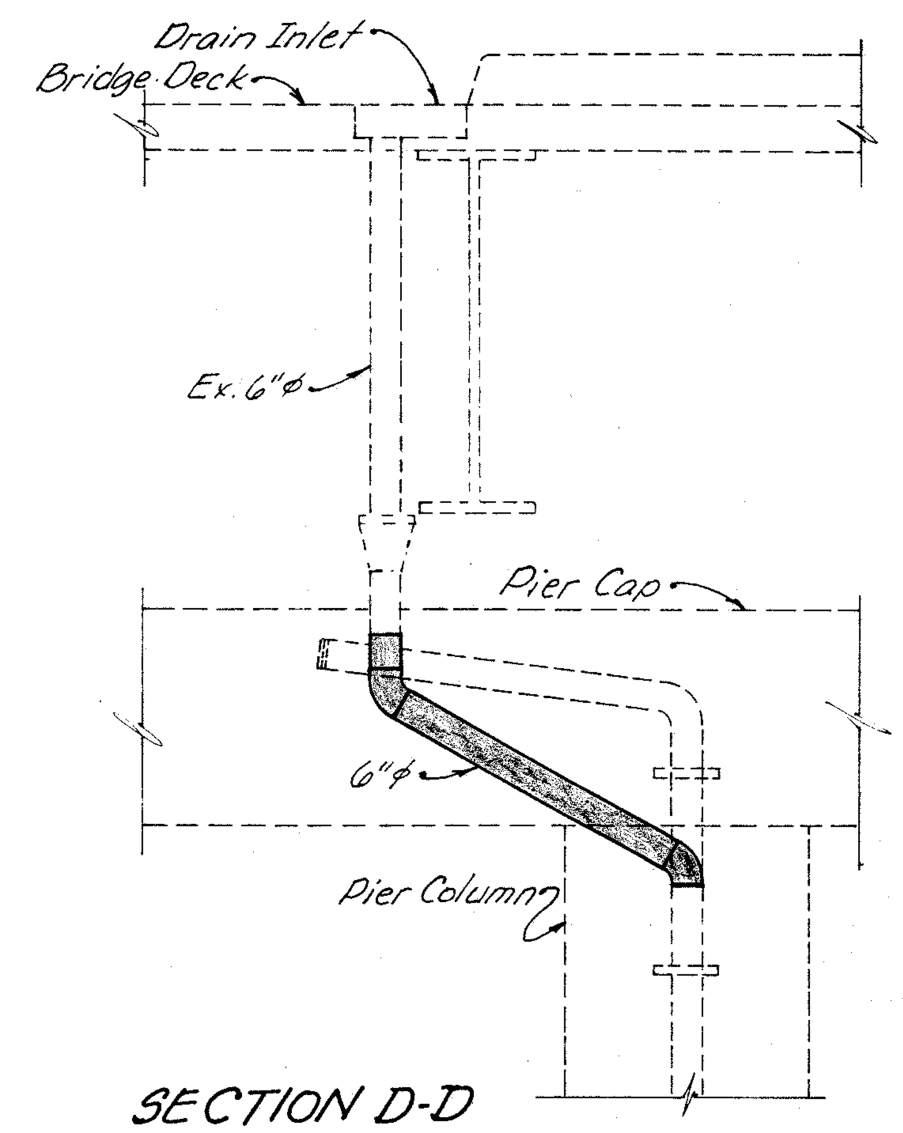
PIER 2



SECTION B-B



SECTION C-C



SECTION D-D

1. For drainage piping requirements see General Notes on sht. 273/401

2. Approximate № of Linear Feet of proposed 6"ϕ pipe (including specials) = 60'

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409 East Monument Avenue
Dayton, Ohio 45402-1226

3/3

DRAINAGE DETAILS

BRIDGE NO. HAM-71-0192 W
OVER RAMP GD

HAMILTON COUNTY

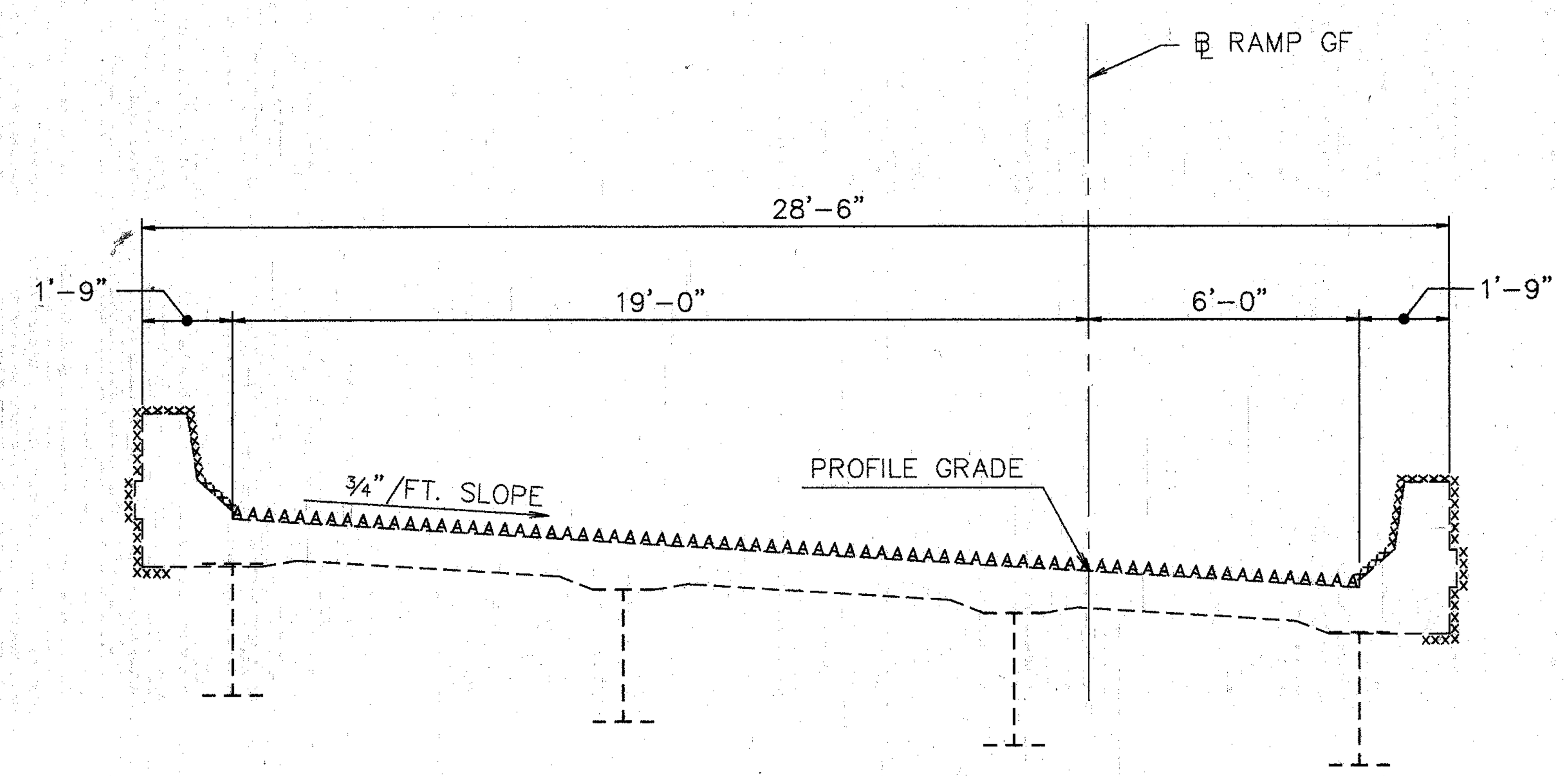
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.E.M.	L.A.P.		D.E.M.	P.W.G.	11/11/94	

PLAN

NOTES:

1. SEAL PARAPETS, BACKWALLS, AND PIERS. SEAL ALL OF PIERS EXCEPT T/PIER CAP. PIER 1 NOT TO BE SEALED. SEE DETAIL A, SHT. 3/4
2. MODIFY DRAINAGE PIPING. SEE DETAILS SHT. 4/4

ROCKER SIZE	JACK CAPACITY REQ'D. (MIN.)
R150	125 TON
R125	100 TON



TYP. BRIDGE SECTION

XXXX SURFACES TO BE SEALED UNDER ITEM SPECIAL-SEALING OF CONCRETE SURFACES.

AAAA SURFACES TO BE SEALED UNDER ITEM SPECIAL-WATERPROOFING, MISC: SEALING ASPHALT WEARING SURFACE.

PROPOSED WORK

1. RETROFIT BARRIER & PLACE NEW BARRIER.
2. SEAL BACKWALL, PARAPETS AND PIERS.
3. SEAL ASPHALT WEARING SURFACE.
4. SEAL EXPANSION JOINT WITH SEALANT.
5. SEAL JOINTS AS NOTED.
6. REFURBISH BEARINGS.
7. REFURBISH DRAINAGE PIPING.
8. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTENANCE OF TRAFFIC PLANS.
9. OTHER WORK AS DESCRIBED IN THESE PLANS.

EXISTING STRUCTURE

TYPE: CONTINUOUS CURVED WELDED PLATE GIRDER W/REINFORCED CONCRETE DECK AND SUBSTRUCTURE
SPAN: 87.00', 87.75', 96.04', 114.98', 85.73', & 59.27' (SPANS 1 THRU 6) MEASURED ALONG BASELINE
ROADWAY: 26.5' F/F PARAPET
SKEW: VARIES
LIVE LOADING: HS 20-44 AND THE INTERSTATE ALTERNATE LOADING
SURFACE COURSE: 1 1/2" ASPHALT CONCRETE
APPROACH SLABS: AS-1-67 (25'-0" LONG)
ALIGNMENT: VARIES
SUPERELEVATION: VARIES

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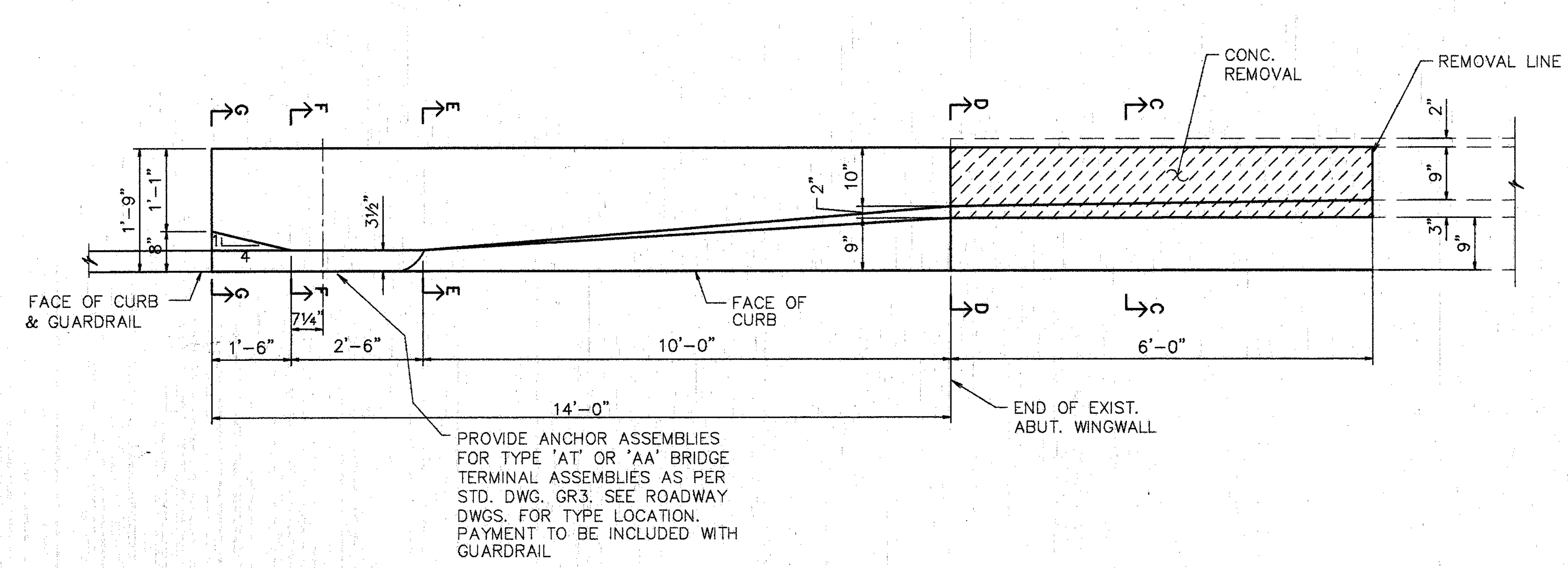
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660

1/4

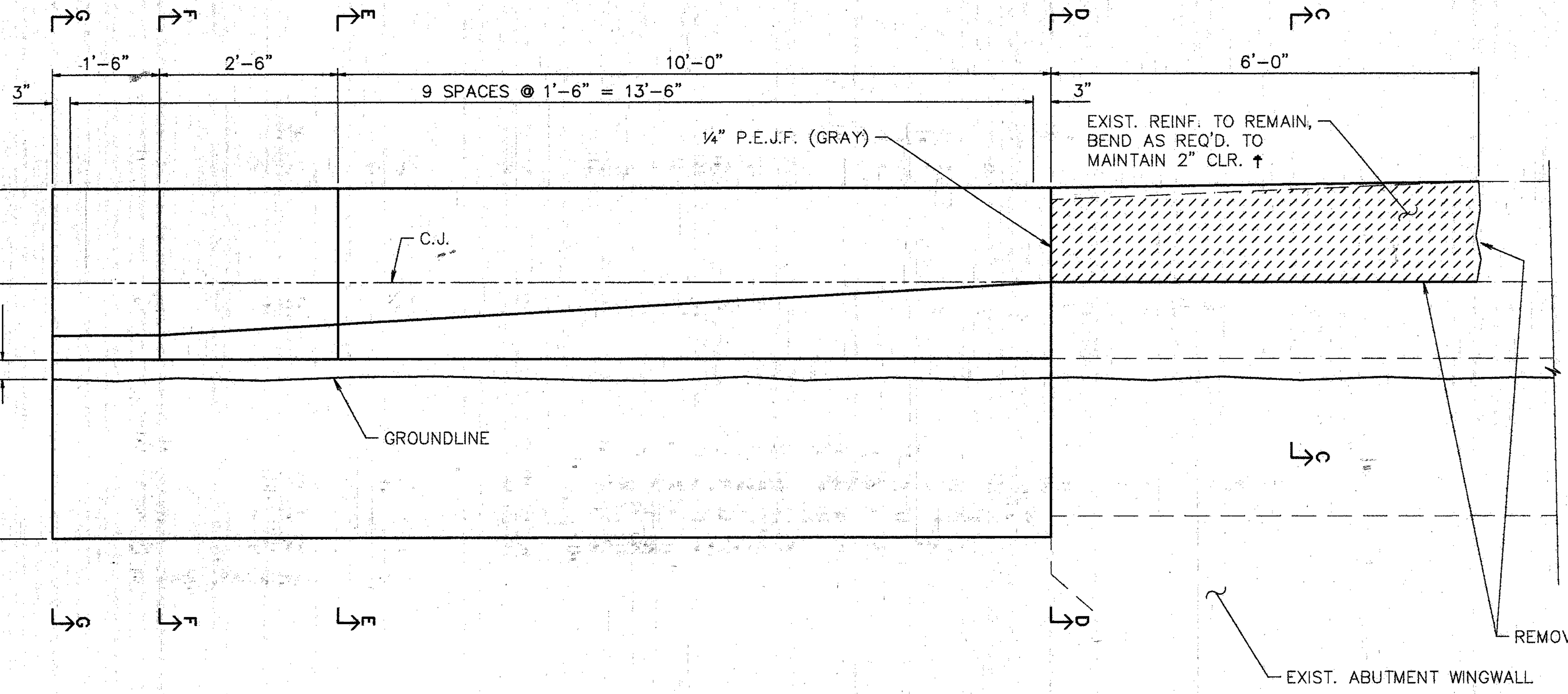
GENERAL PLAN

BRIDGE NO. HAM-71-0192N
RAMP 'GF' OVER PENN-CENTRAL RAILROAD & GILBERT AVENUE
HAMILTON COUNTY

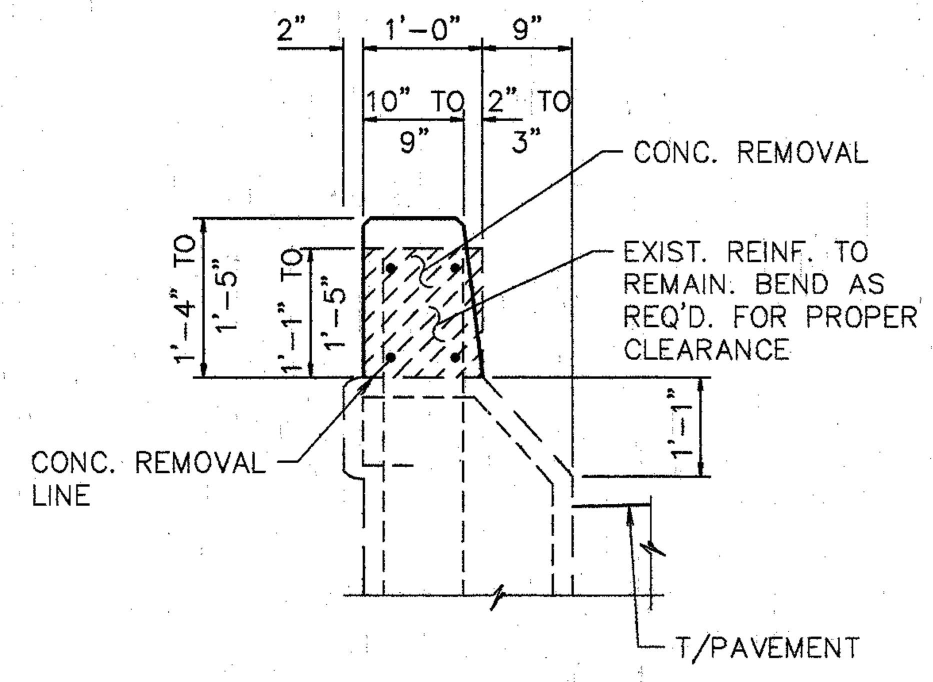
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	1/11/94	



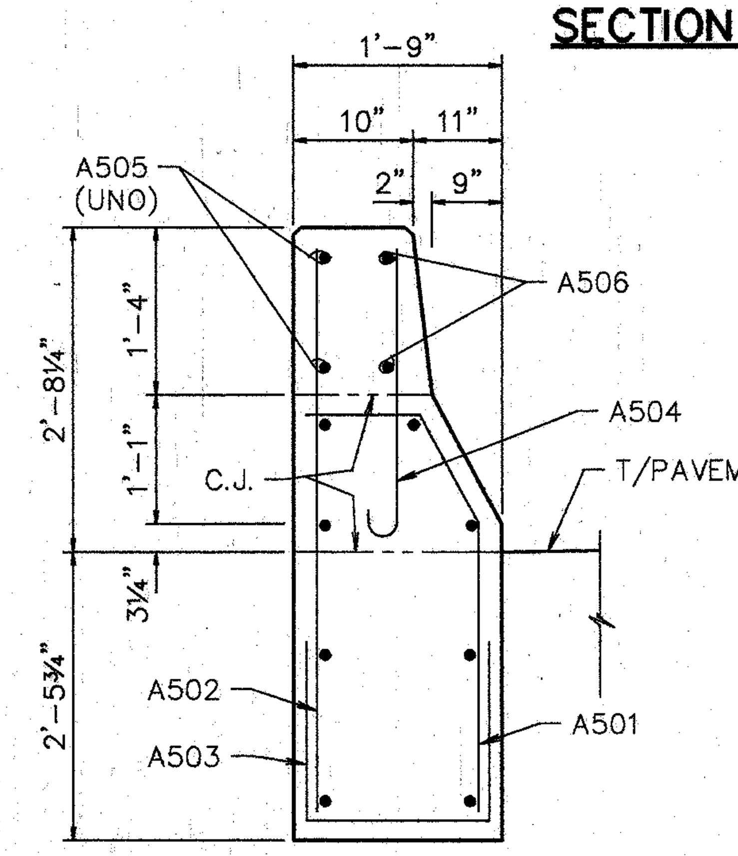
PLAN – ABUTMENT MODIFICATION



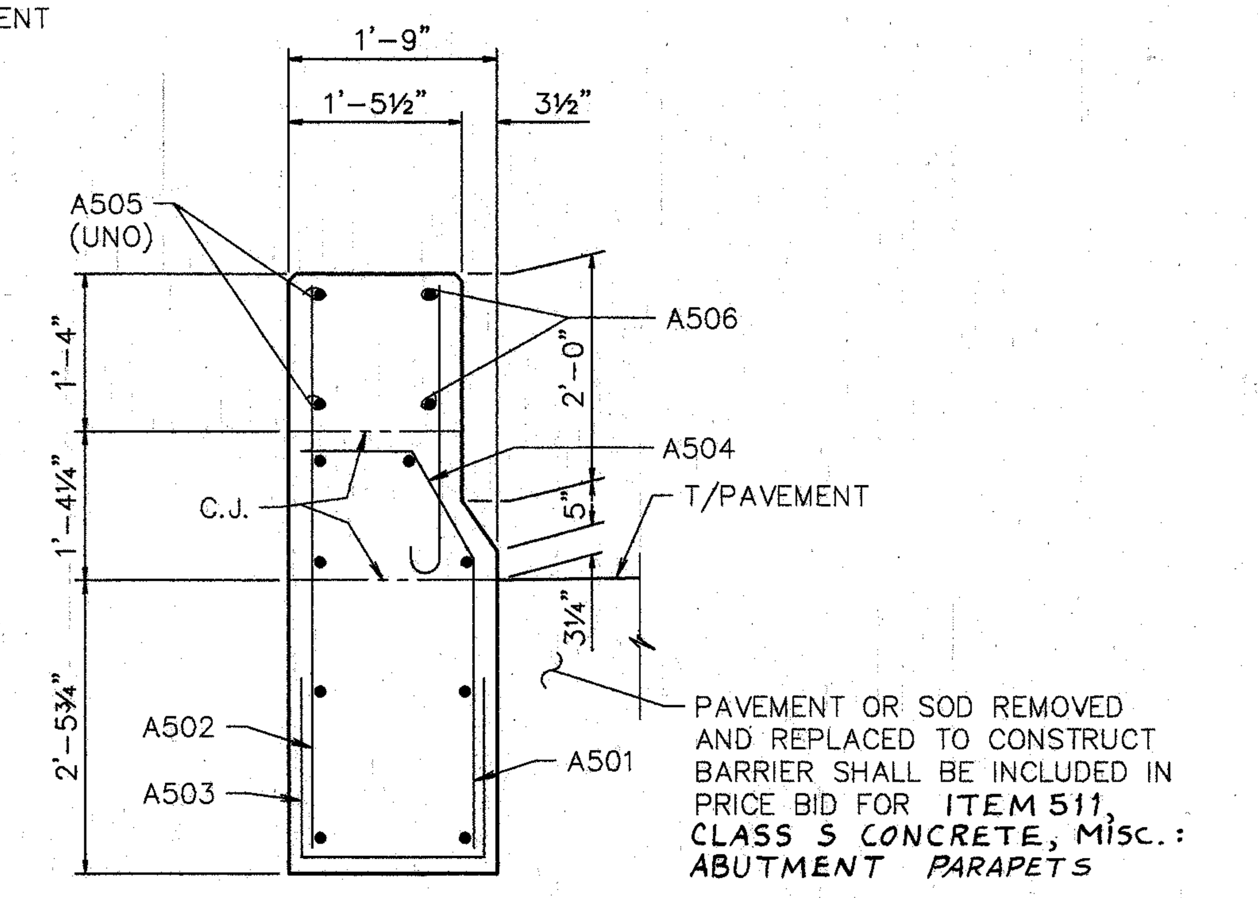
ELEVATION – ABUTMENT MODIFICATION



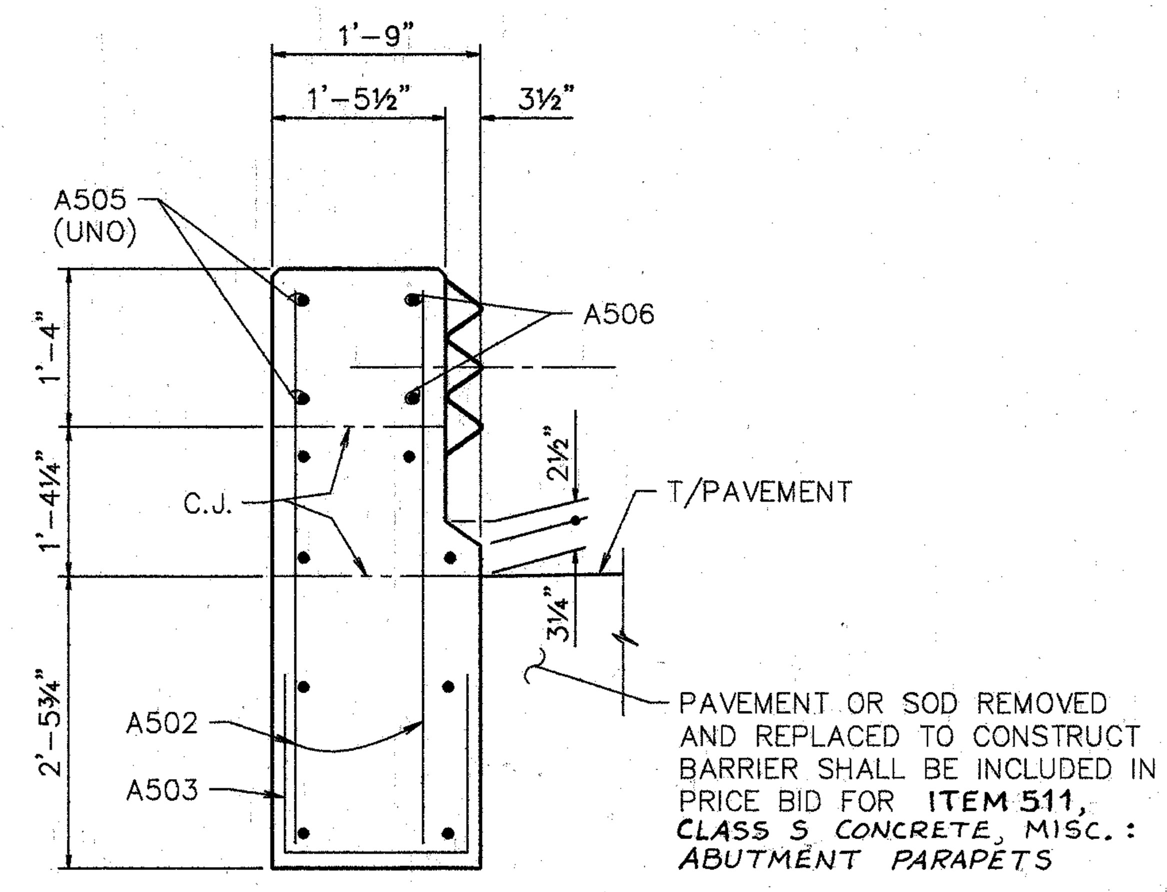
SECTION C–C



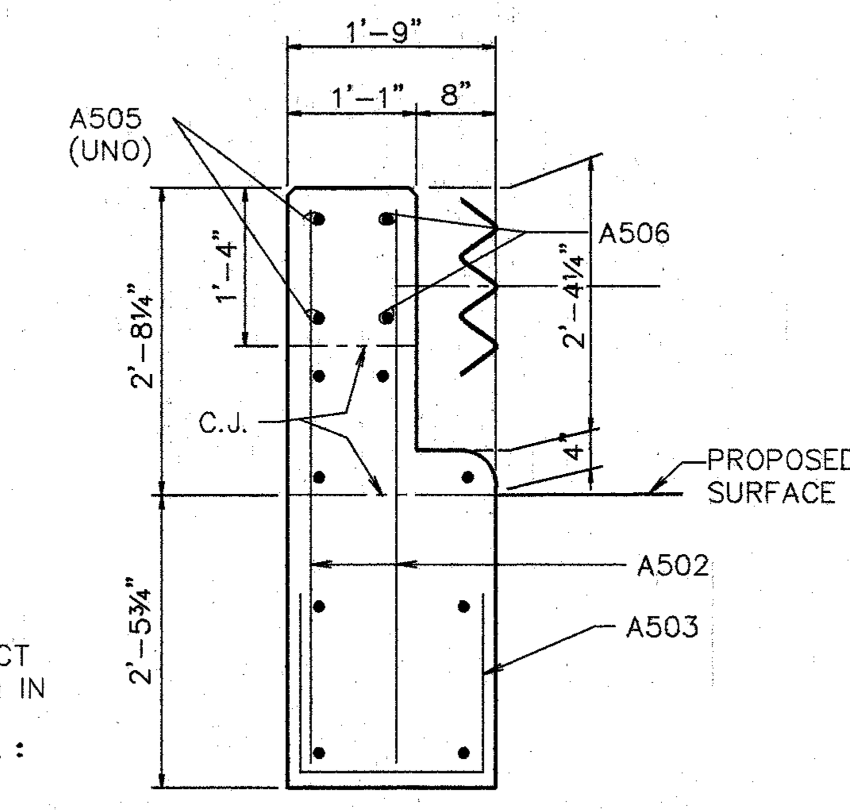
SECTION D–D



SECTION E–E



SECTION F–F



SECTION G–G

NOTES:

THE PRICE BID PER CUBIC YARD FOR ITEM 511, CLASS S CONCRETE, *MISC.: ABUTMENT PARAPETS* SHALL INCLUDE CLASS S CONCRETE, BACKFILL, REPLACING PORTIONS OF THE END OF EXISTING PARAPETS, AND OTHER WORK INCIDENTAL THERETO.

EPOXY COATED REINFORCING STEEL SHALL BE INCLUDED IN ITEM 509, 'EPOXY COATED REINFORCING STEEL, GRADE 60'.

EXISTING PARAPET TO BE REMOVED AND EXCAVATION SHALL BE INCLUDED IN ITEM 202 – PORTIONS OF STRUCTURE REMOVED.

† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONCRETE REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.

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409 E. MONUMENT AVENUE
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PARAPET SECTIONS

BRIDGE NO. HAM-71-0192N
RAMP 'GF' OVER PENN-CENTRAL

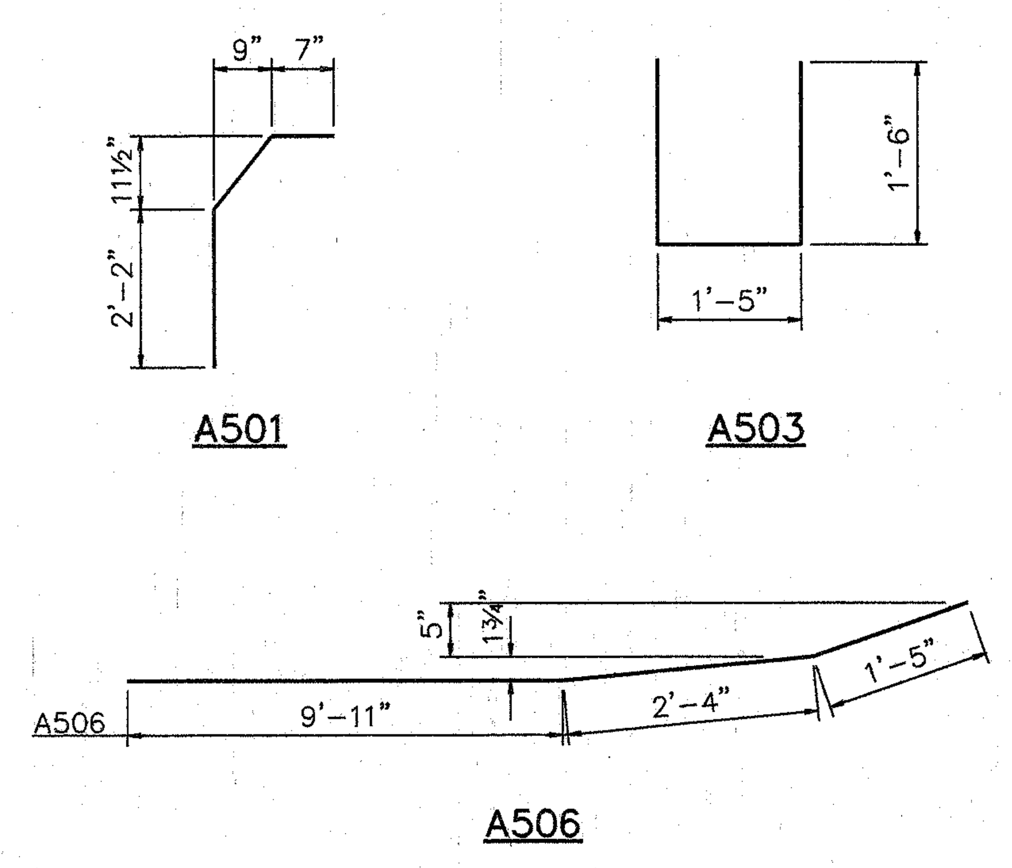
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 1/11/94	

REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A501	BNT.	16	3'-10"	64
A502	STR.	24	4'-10"	121
A503	BNT.	20	4'-2"	87
A504	BNT.	16	3'-0"	50
A505	STR.	20	13'-6"	282
A506	BNT. †	4	13'-9"	57
REPLACEMENT STEEL				300
			TOTAL	961

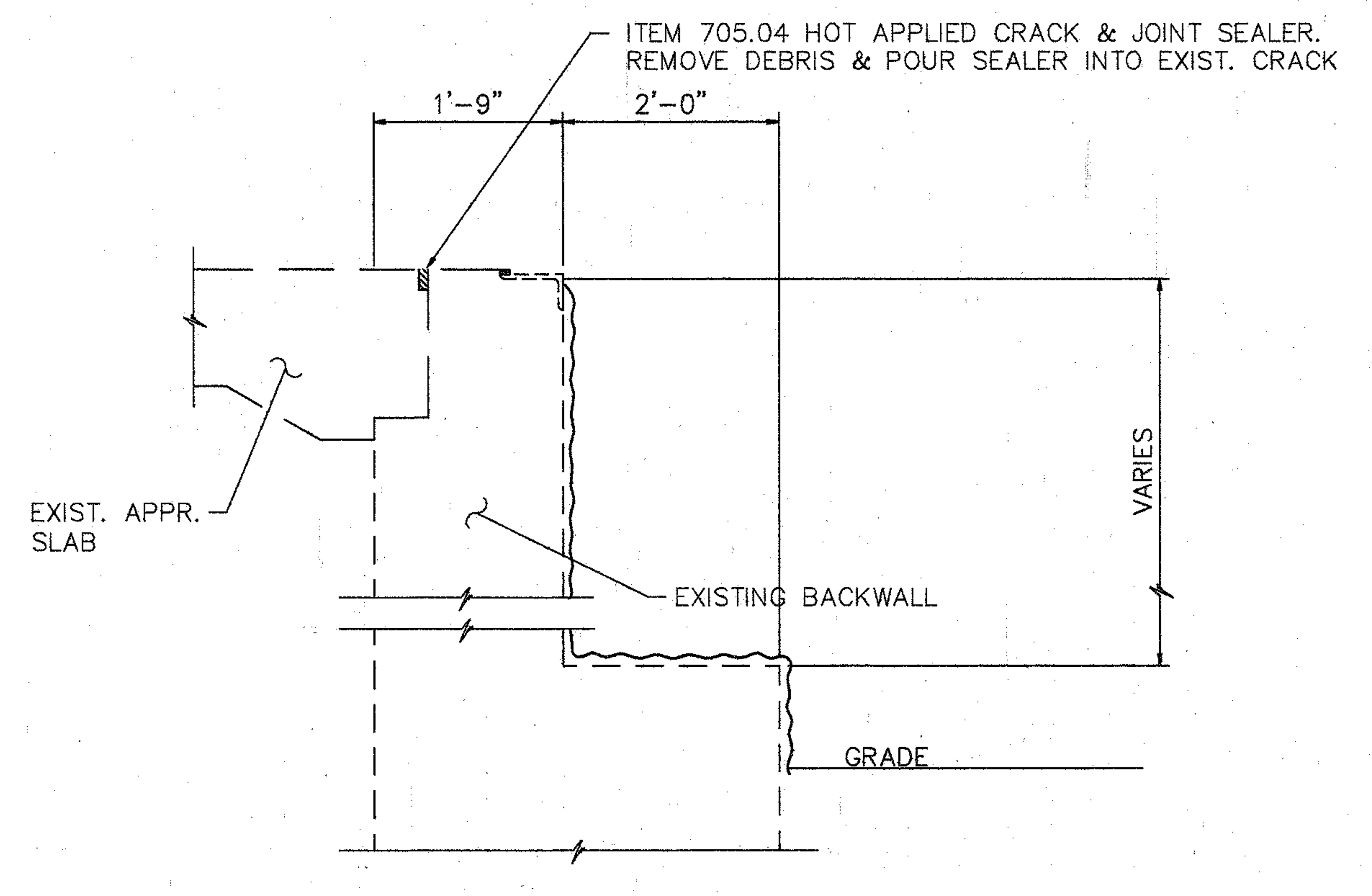
BENT BAR DETAILS



† BEND IN FIELD AS REQUIRED.

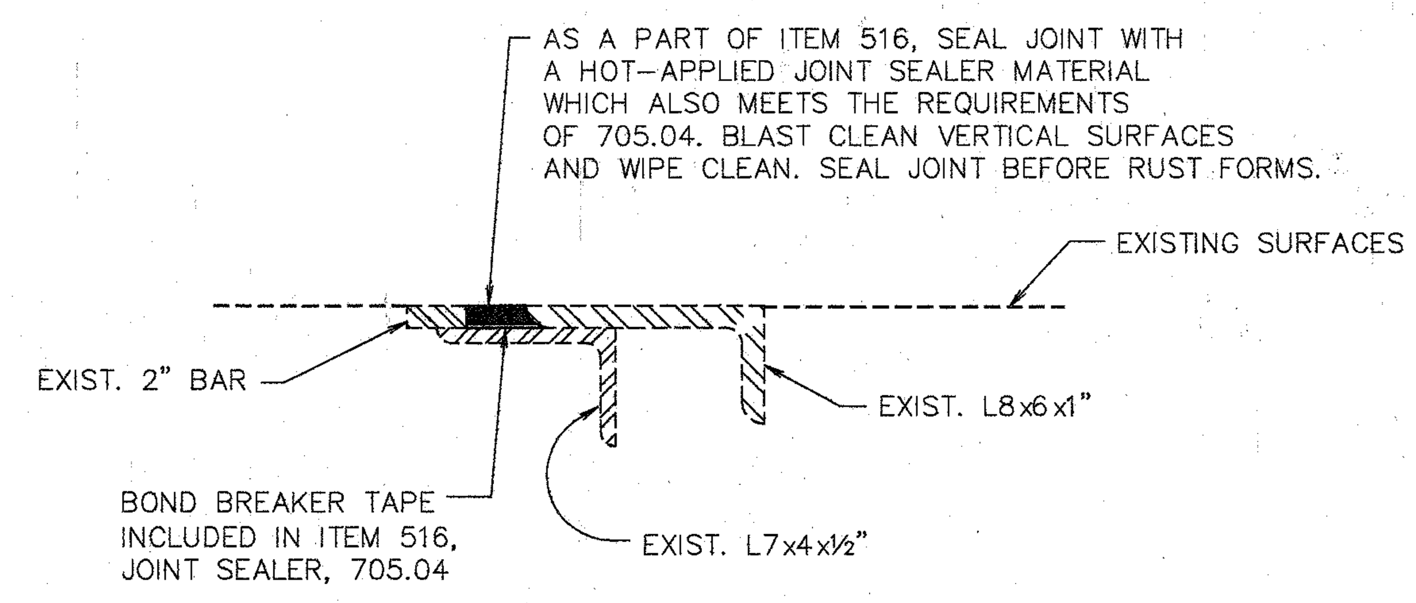
ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	LBS.	PORTIONS OF STRUCTURE REMOVED
509	15820	961	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
511	34450	10	C.Y.	CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
514	27704	LUMP	L.S.	FIELD PAINTING EXISTING STEEL, EEU *
SPECIAL	51267200	1520	S.Y.	WATERPROOFING, MISC: SEALING ASPHALT WEARING SURFACE
SPECIAL	51267500	898	S.Y.	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	36	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
516	14600	10	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2"x4" SEALER, AS PER PLAN
516	31000	46	L.F.	JOINT SEALER, 705.04
516	45304	8	EACH	REFURBISH BEARING DEVICE
518	63300	LUMP SUM	L.S.	STRUCTURE DRAINAGE, MISC: MODIFY DRAINAGE PIPING
519	11100	16	S.F.	PATCHING CONCRETE STRUCTURE
516	14600	125	L.F.	SEAL JOINT BETWEEN ABUTMENT AND CONCRETE SLOPE PROTECTION
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
601	21100	5	S.Y.	REPAIR CONCRETE SLOPE PROTECTION

* SEE PROPOSAL NOTE



DETAIL A

SURFACE TO BE SEALED UNDER ITEM SPECIAL- 'SEALING OF CONCRETE SURFACE, EPOXY'.



DETAIL B

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DAYTON, OHIO 45402-1226
(513) 461-5660

3 / 4

MISCELLANEOUS DETAILS

BRIDGE NO. HAM-71-0192N
RAMP 'GF' OVER PENN-CENTRAL

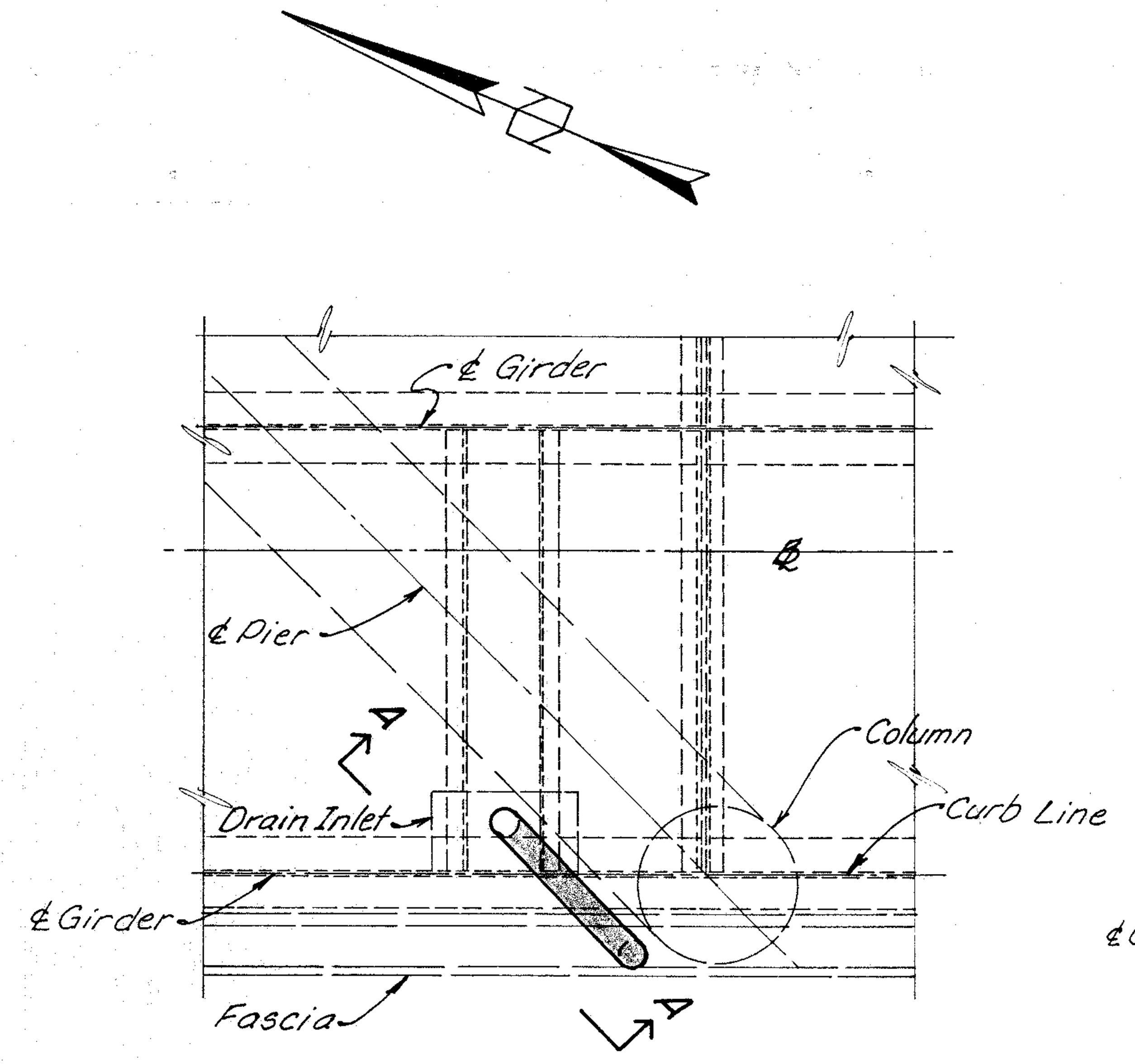
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	1/11/94	

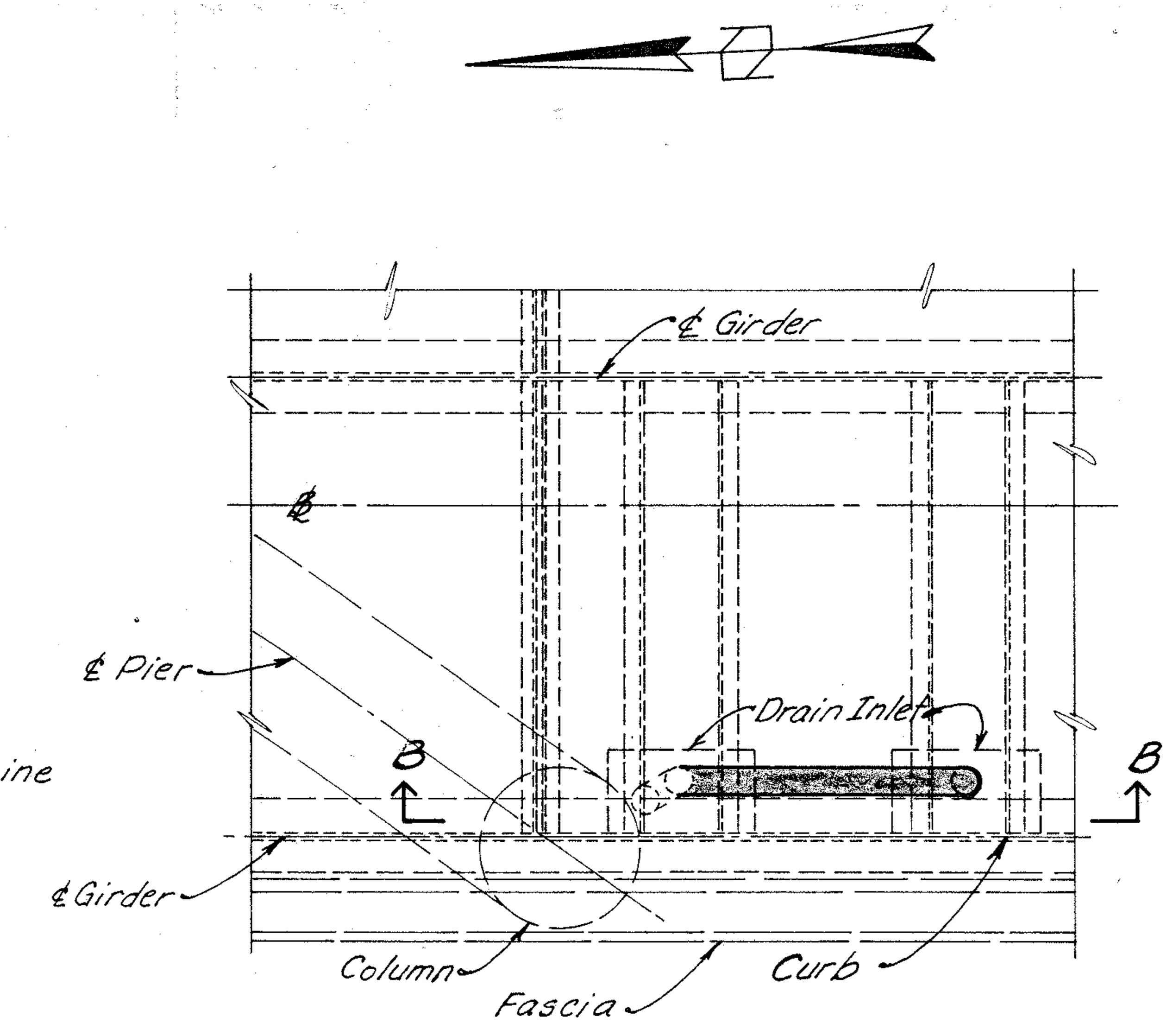
Last Plot JUN. 17, 1991 @ 8:07 AM
G:\STR\16596-03\ASHLAND\0192NDET Last Revision By: D.E.E. APR. 12, 1994 @ 11:02 AM

F.H.W.A. REGION	STATE	PROJECT		311/401
5	OHIO			

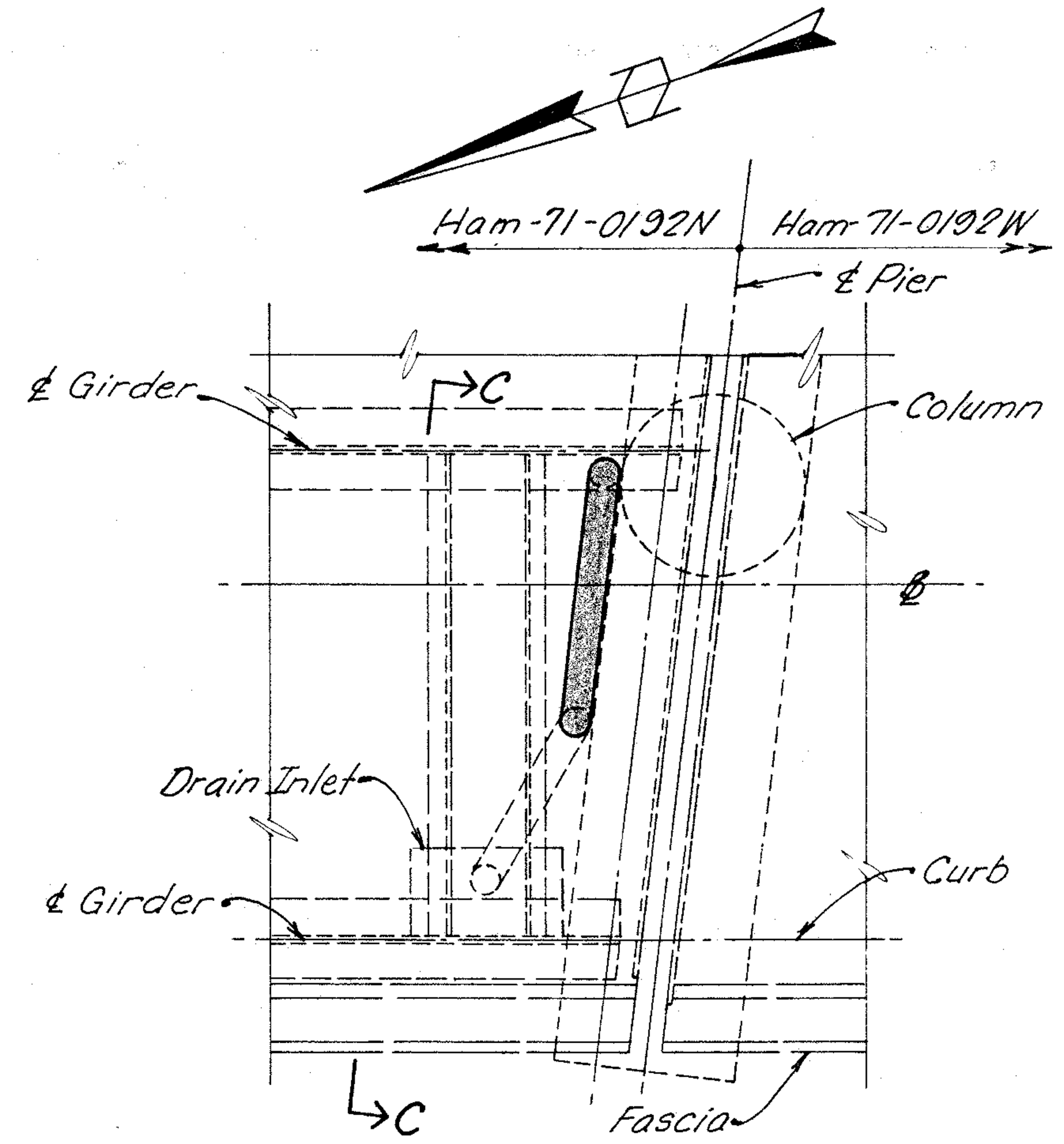
HAM-71-1.30/9.0



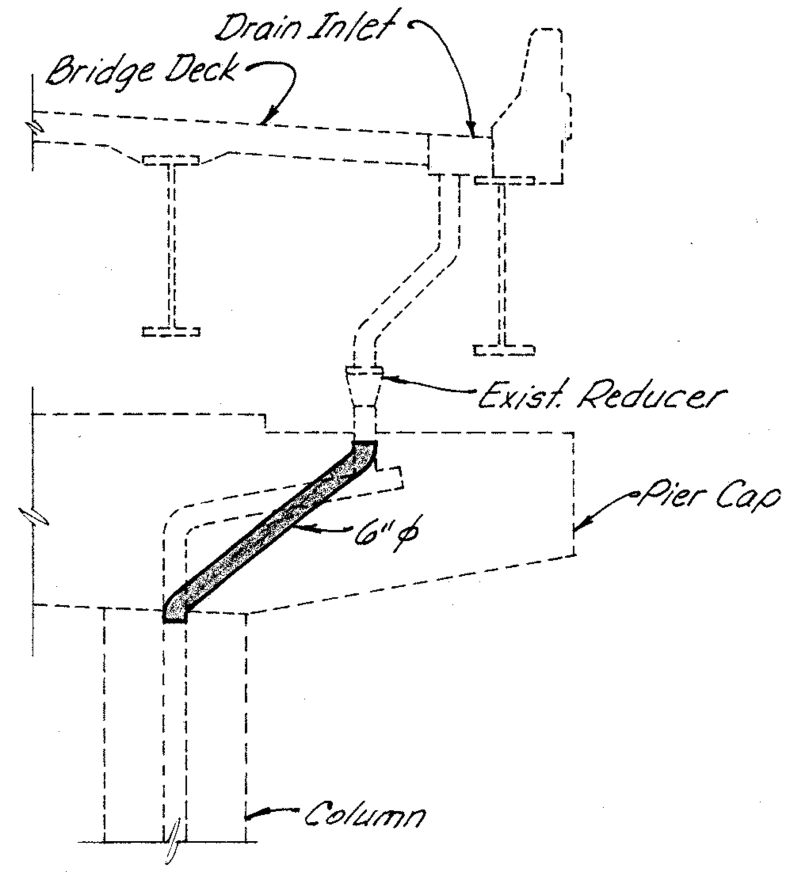
PIER 2



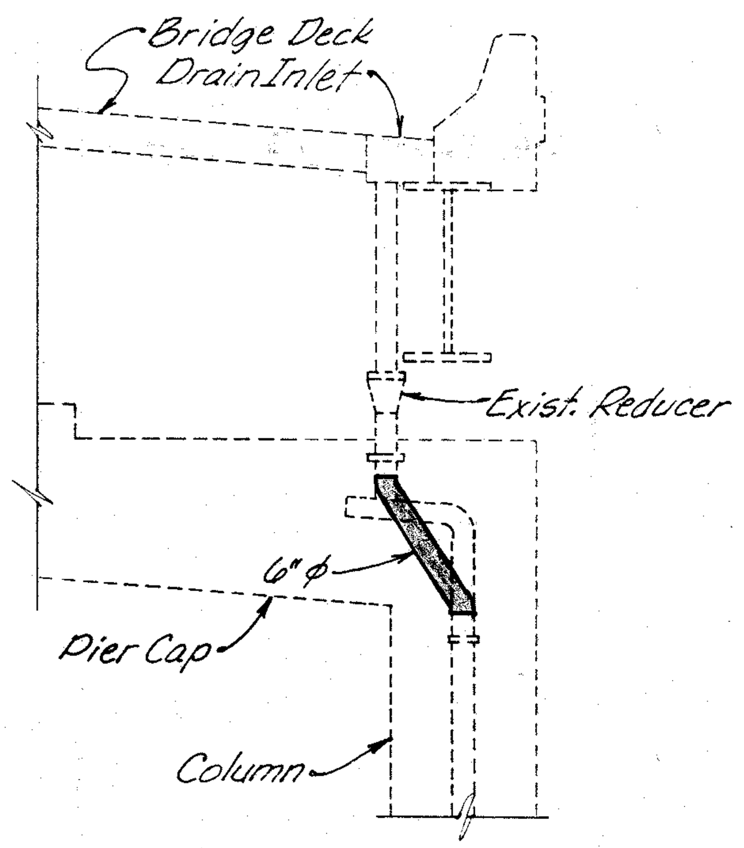
PIER 4



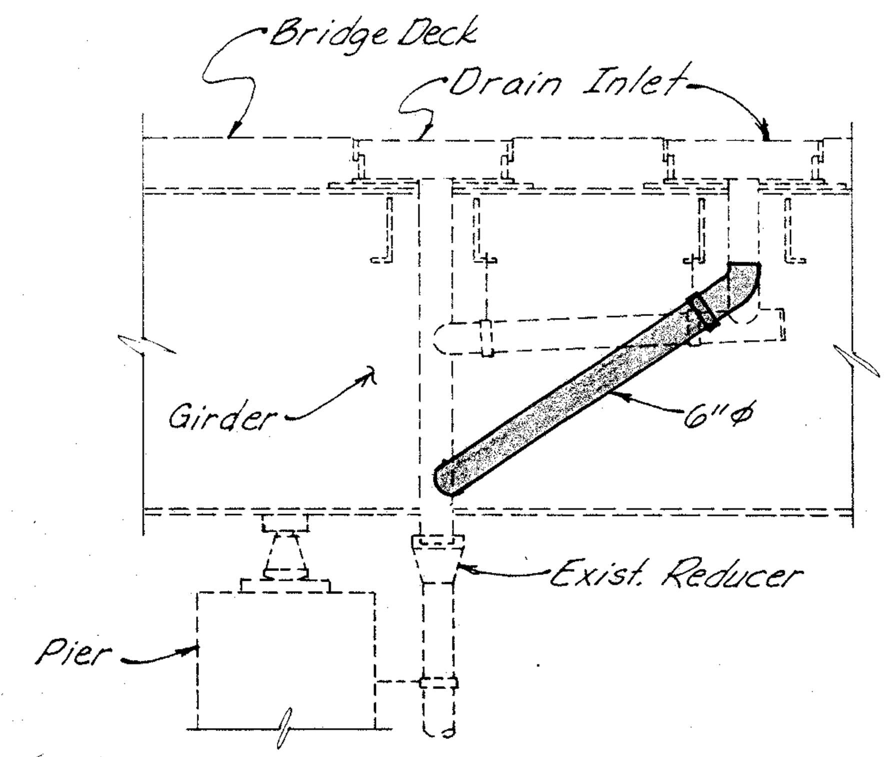
PIER 2 (BRIDGE 71-0192 W)



SECTION C-C



SECTION A-A



SECTION-B-B

1. For drainage piping requirements see General Notes on sht. 273/401

2. Approximate № of Linear Feet of proposed 6"φ pipe (including specials) = 30'

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409 East Monument Avenue
Dayton, Ohio 45402-1226

4/4

DRAINAGE DETAILS

BRIDGE NO. HAM-71-0192 N
OVER GILBERT AVENUE

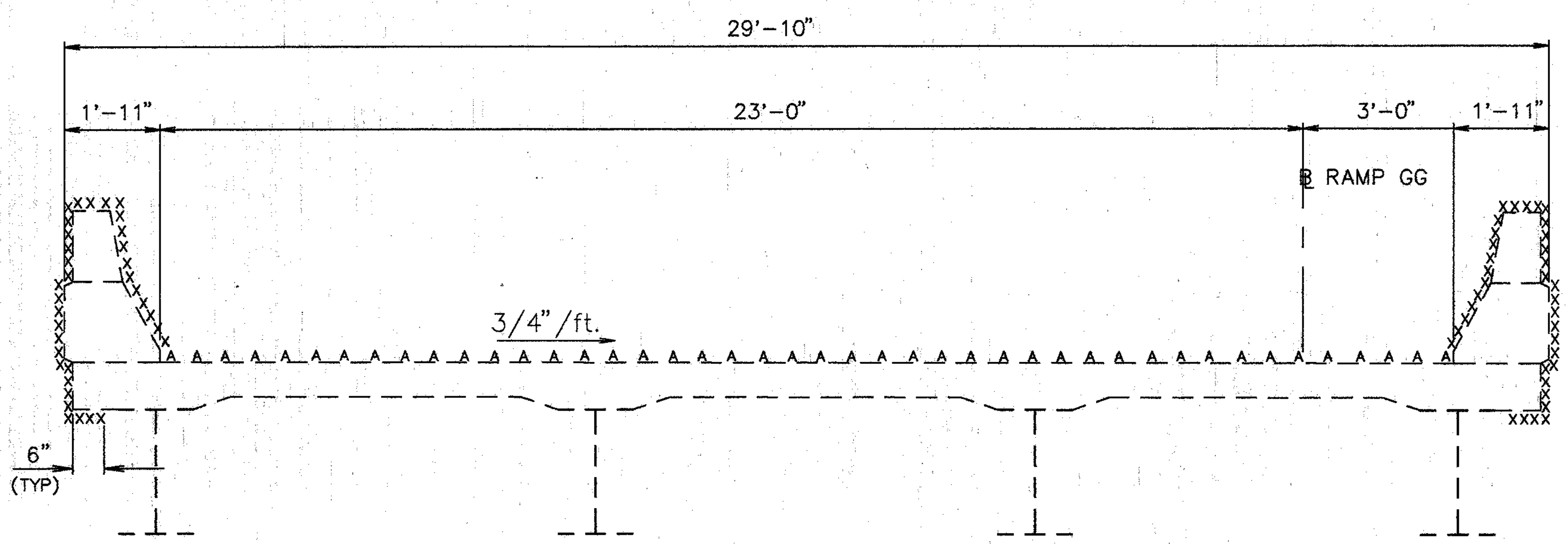
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	RACH		M.A.A.	D.E.M.	11/11/94	

CALC. BY L.A.T.M. DATE 2-23-94 / CHK'D BY D.E.M. DATE 3-4-94	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	312 / 401

TABLE OF SPAN LENGTH

SPAN	LENGTH	SPAN	LENGTH
1	66.52'	6	88.86'
2	66.26'	7	93.55'
3	62.84'	8	58.42'
4	66.03'	9	107.23'
5	66.03'	10	75.00'



TYPICAL BRIDGE SECTION

XXXXX SURFACES TO BE SEALED UNDER ITEM SPECIAL, SEALING OF CONCRETE SURFACE.

AAAAA SURFACES TO BE SEALED UNDER ITEM SPECIAL, WATERPROOFING, MISC.: SEALING ASPHALT WEARING SURFACE.

NOTES:

SEAL PARAPETS, PIERS, AND BACKWALLS (SEE DTL. A SHT. 3/3).
SEAL ALL PIERS, EXCEPT T/PIER CAP. DO NOT SEAL PIER 1.

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL PLATE CURVED GIRDERS W/ REINF. CONC. DECK & SUBSTRUCTURE
SPANS: VARY, SEE TABULATION

ROADWAY: 26'-0" F-F CURBS (SPANS 4 THRU 10) VARIES (SPANS 1,2& 3)
SKEW: VARIES
LIVE LOADING: HS 20-44 AND THE INTERSTATE ALTERNATE LOADING
WEARING SURFACE: 1 1/2" ASPHALT SURFACE COURSE
APPROACH SLABS: AS-1-67 (25'-0" LONG)
ALIGNMENT: VARIES
SUPERELEVATION: VARIES

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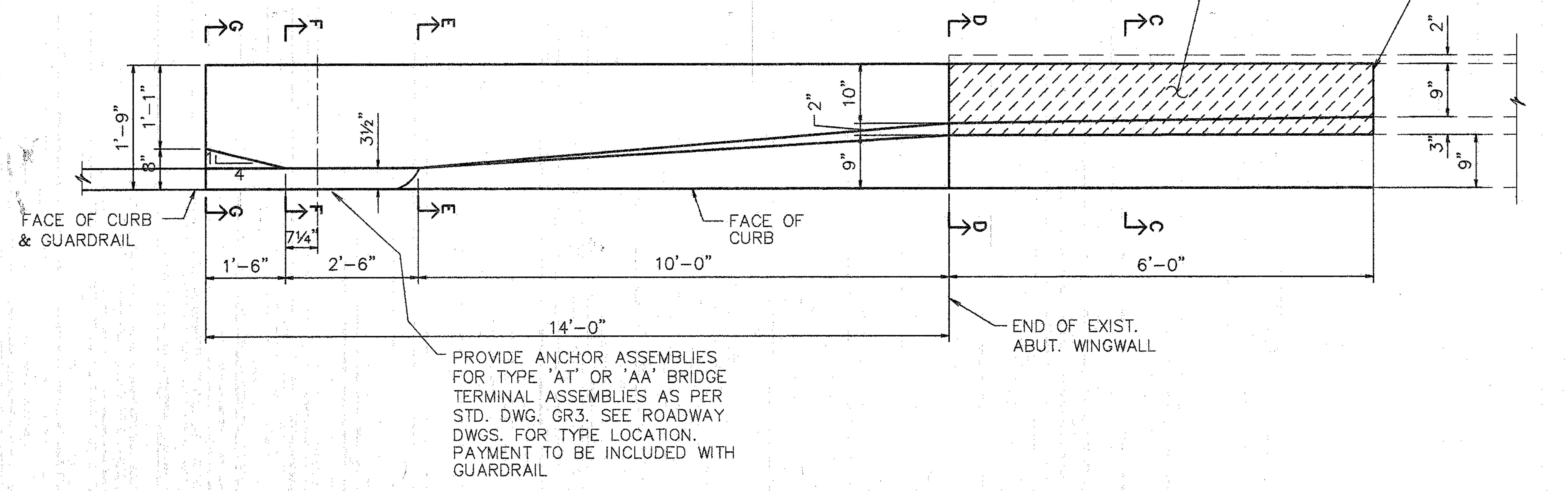
GENERAL PLAN

BRIDGE NO. HAM-71-0202
OVER INTERSTATE ROUTE 71

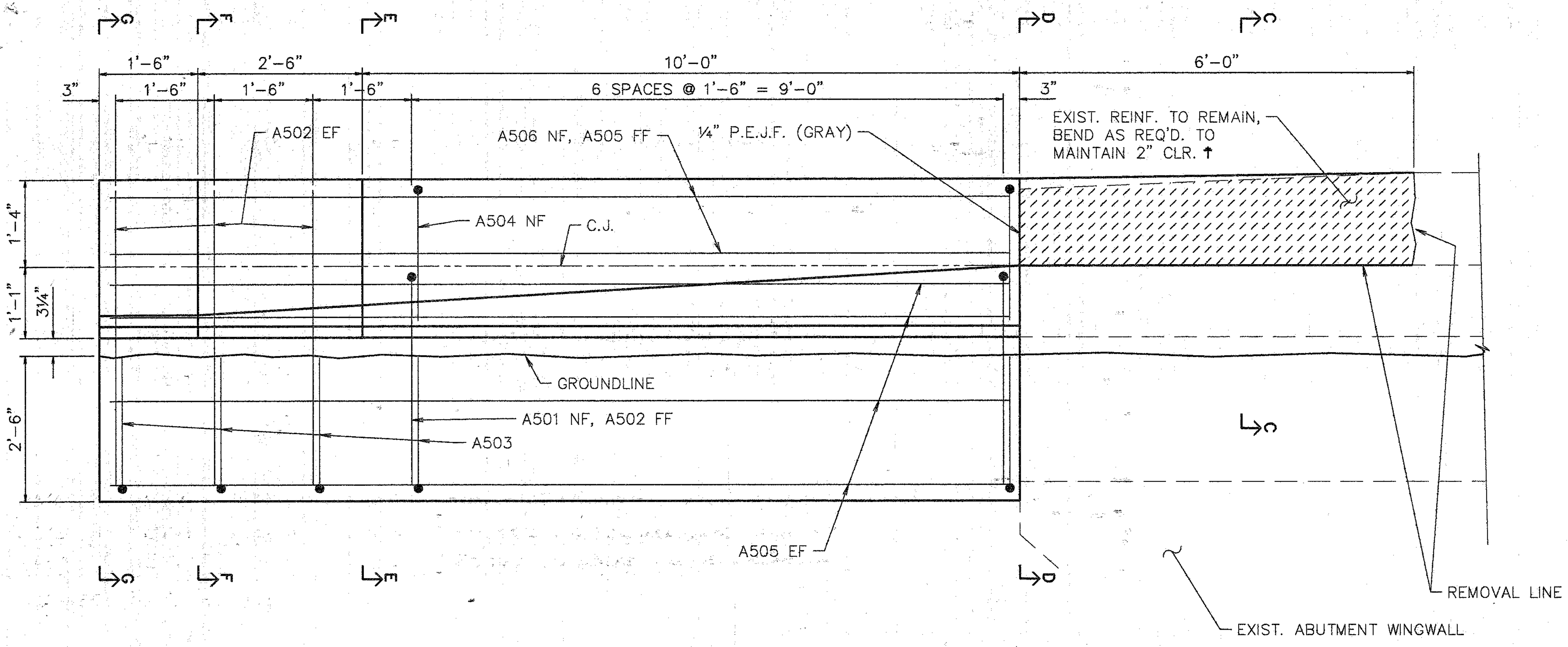
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	RACH		M.A.A.	D.E.M. 1/11/94	

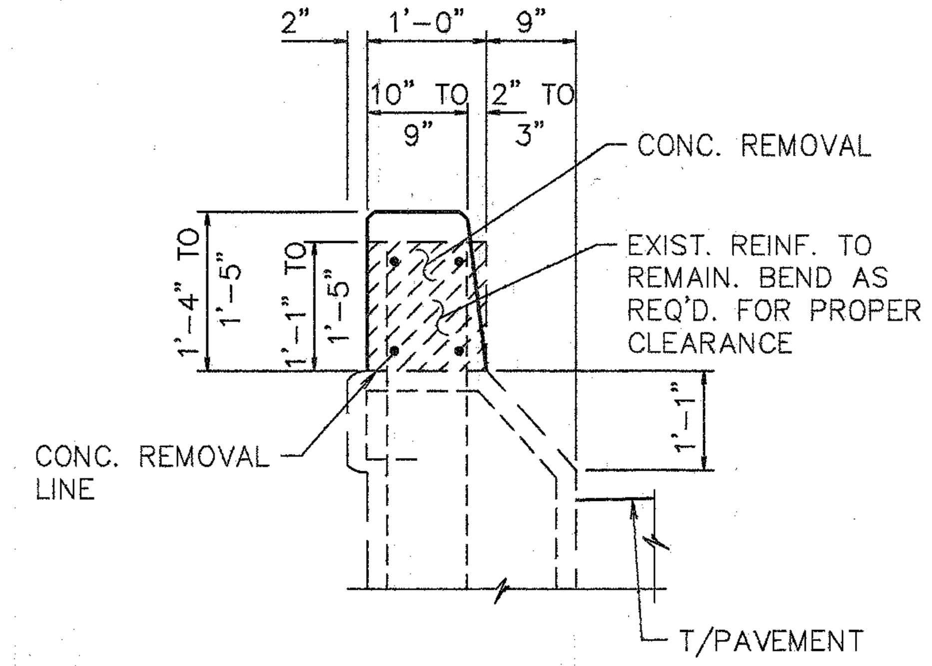
Last Plot: JUN. 17, 1991 @ 8:02 AM Last Revision By: RACH MAY 18, 1994 @ 5:27 PM
G:\STR\16596-03\ASHLAND\71-0202



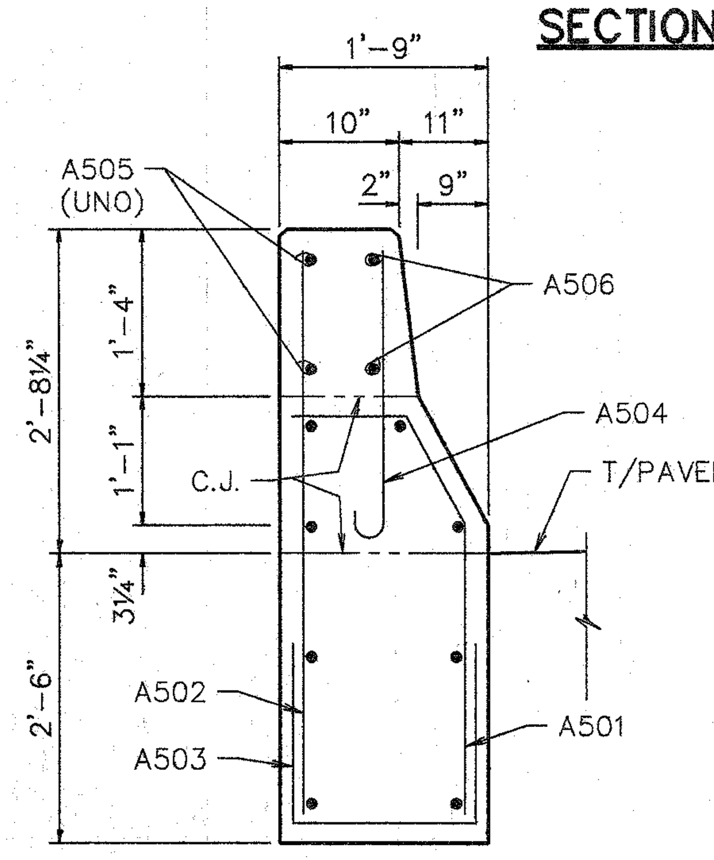
PLAN – ABUTMENT MODIFICATION



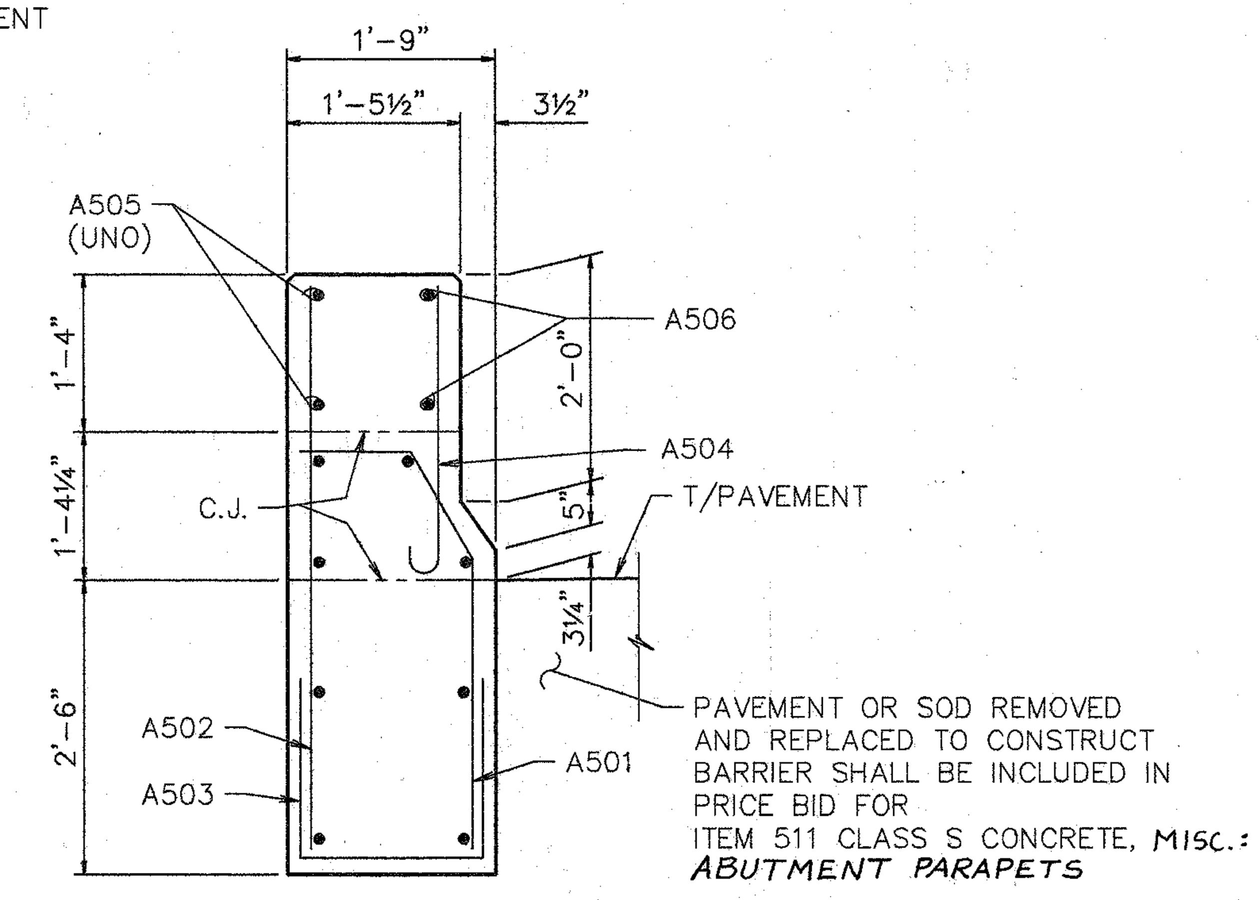
ELEVATION – ABUTMENT MODIFICATION



SECTION C–C



SECTION D–D



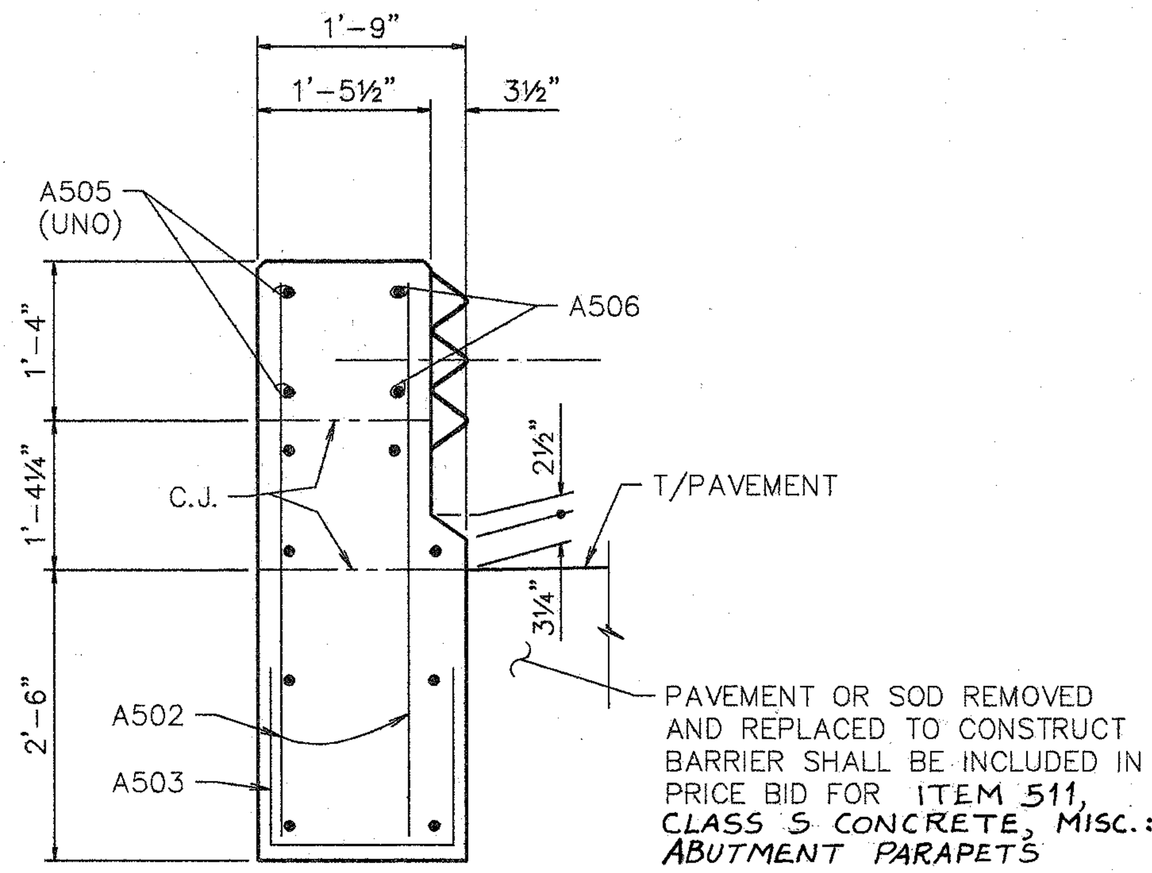
SECTION E–E

NOTES:

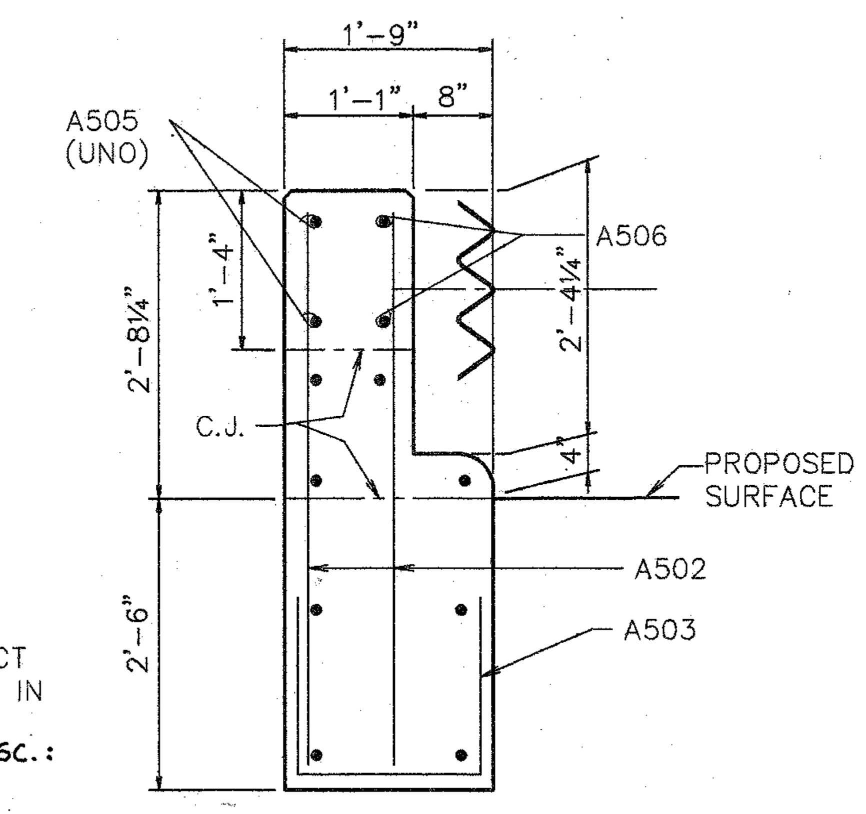
THE PRICE BID PER CUBIC YARD FOR ITEM 511, CLASS S CONCRETE, MISC.: *ABUTMENT PARAPETS* SHALL INCLUDE CLASS S CONCRETE, BACKFILL, REPLACING PORTIONS OF THE END OF EXISTING PARAPETS, 1/4" EXPANSION JOINT MATERIAL AND OTHER WORK INCIDENTAL THERETO.

EPOXY COATED REINFORCING STEEL SHALL BE INCLUDED IN ITEM 509, 'EPOXY COATED REINFORCING STEEL, GRADE 60'.

EXISTING PARAPET TO BE REMOVED AND EXCAVATION SHALL BE INCLUDED IN ITEM 202 – PORTIONS OF STRUCTURE REMOVED.



SECTION F–F



SECTION G–G

† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONCRETE REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.

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PARAPET SECTIONS

BRIDGE NO. HAM-71-0202
OVER INTERSTATE ROUTE 71

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	1/11/94	

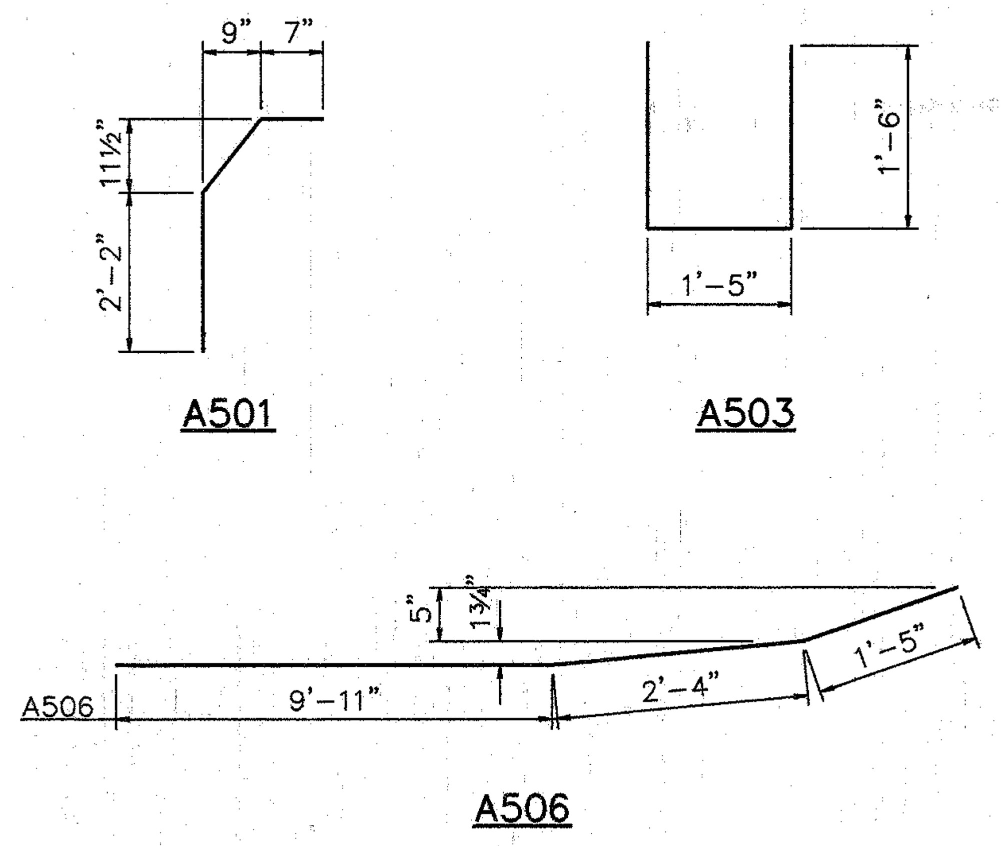
Last Plot: MAY 15, 1991 @ 7:30 PM Last Revision By: RACH JUL 15, 1994 @ 3:19 PM

CALC BY LATM DATE 9-23-94 / CHK'D BY DEM DATE 10-4-94	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	314 / 401

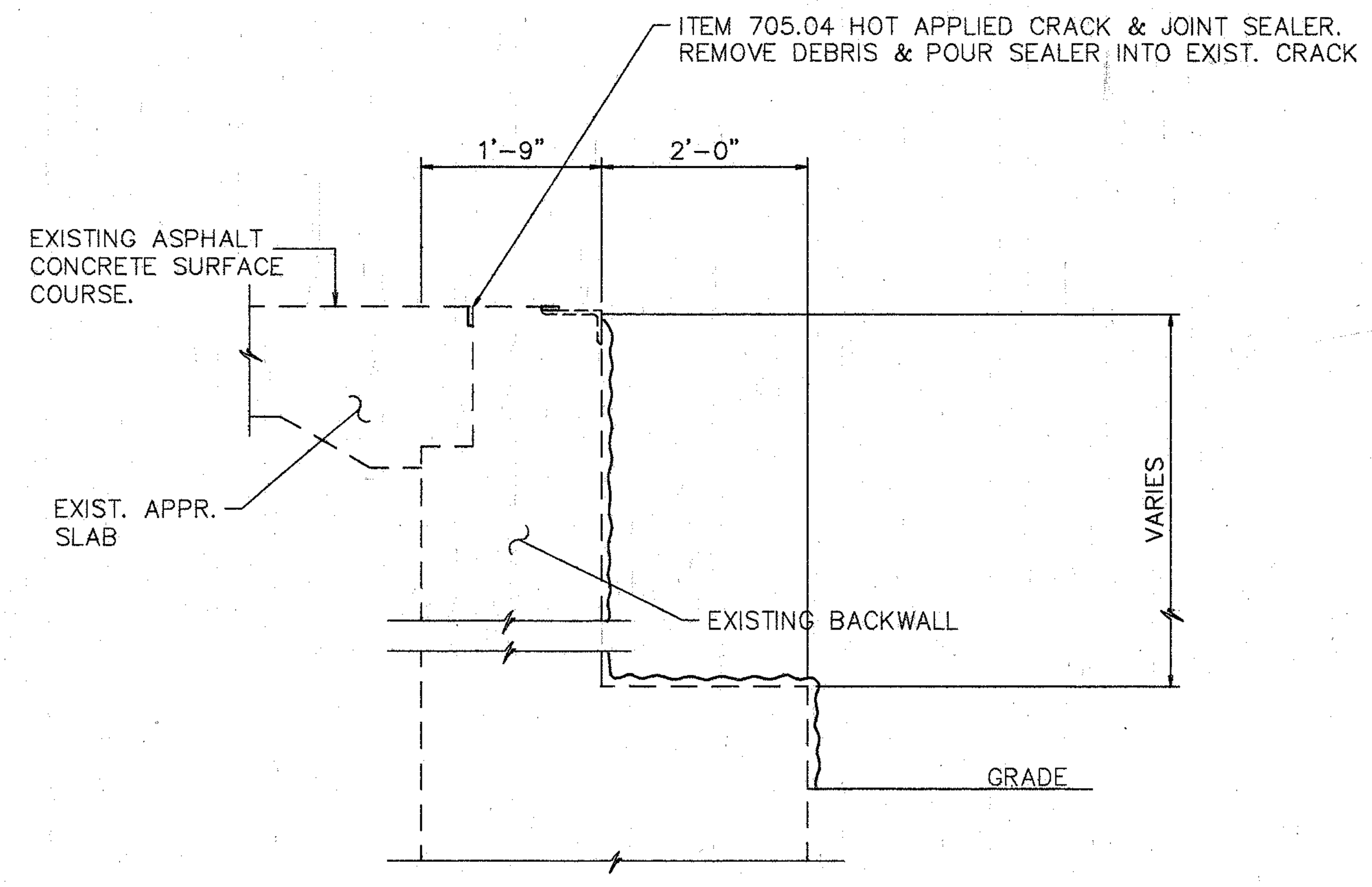
REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A501	BNT.	28	3'-10"	112
A502	STR.	52	4'-10"	262
A503	BNT.	40	4'-2"	174
A504	BNT.	28	3'-0"	88
A505	STR.	40	13'-6"	563
A506	BNT. †	8	13'-9"	115
REPLACEMENT STEEL				300
			TOTAL	1614

BENT BAR DETAILS

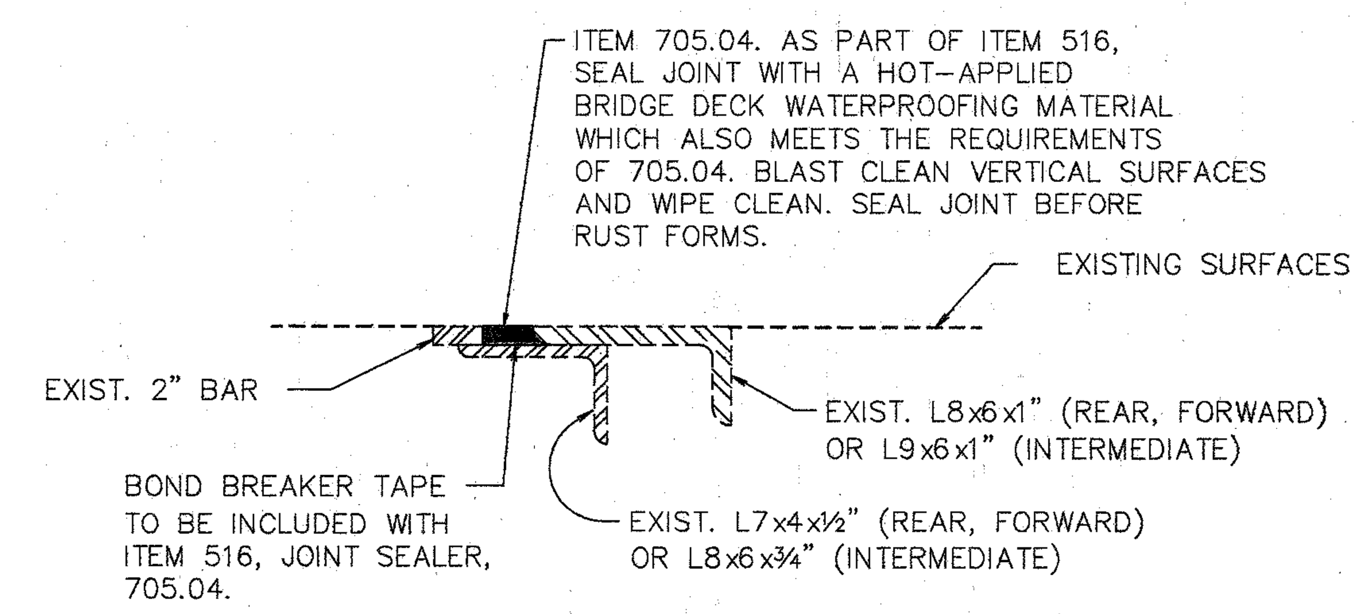


† BEND IN FIELD AS REQUIRED.



DETAIL A

SURFACE TO BE SEALED UNDER ITEM SPECIAL, SEALING OF CONCRETE SURFACE, (EPOXY).



DETAIL B

ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	L.S.	PORTIONS OF STRUCTURE REMOVED
516	14600	50	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2"x4" SEALER, AS PER PLAN
509	15820	1614	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
511	34450	20	C.Y.	CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
SPECIAL	51267200	2342	S.Y.	WATERPROOFING, MISC: SEALING ASPHALT WEARING SURFACE
SPECIAL	51267500	1995	S.Y.	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	128	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
519	11100	12	S.F.	PATCHING CONCRETE STRUCTURE
514	27704	LUMP	L.S.	FIELD PAINTING, MISC: EXISTING STEEL, EEU *
516	31000	160	L.F.	JOINT SEALER, 705.04
516	45304	8	EACH	REFURBISH BEARING DEVICE
518	12700	2	EACH	SCUPPER, VERTICAL EXTENSION
516	14600	150	L.F.	SEAL JOINT BETWEEN ABUTMENT AND CONCRETE SLOPE PROTECTION
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
601	21100	5	S.Y.	REPAIR CONCRETE SLOPE PROTECTION

* SEE PROPOSAL NOTE

PROPOSED WORK

1. RETROFIT BARRIER & PLACE NEW BARRIER.
2. SEAL PARAPETS, PIERS, AND BACKWALL.
3. REFURBISH AND/OR PAINT ALL ABUTMENT BEARINGS.
4. SEAL ASPHALT WEARING SURFACE AND EXPANSION JOINT.
5. SEAL JOINTS AS NOTED.
6. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTENANCE OF TRAFFIC PLANS.
7. OTHER WORK AS DESCRIBED IN THESE PLANS.

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DAYTON, OHIO 45402-1226
(513) 461-5660

3/3

MISCELLANEOUS DETAILS

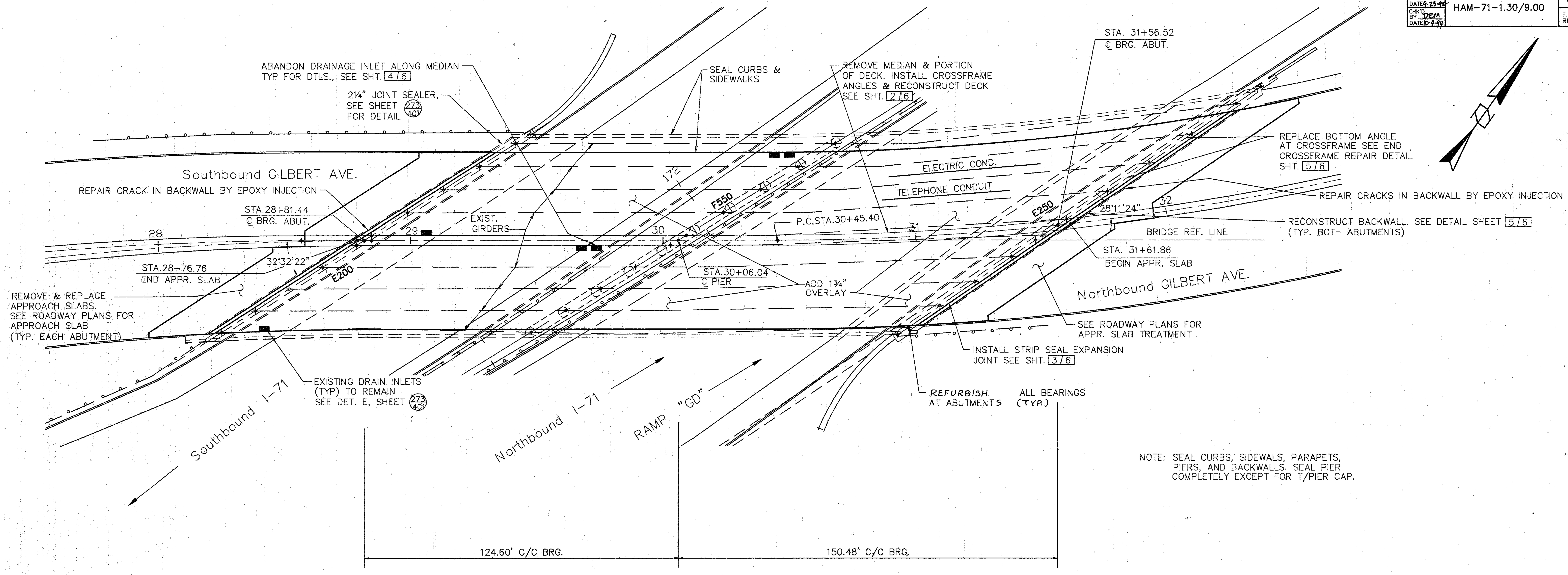
BRIDGE NO. HAM-71-0202
OVER INTERSTATE ROUTE 71

HAMILTON COUNTY

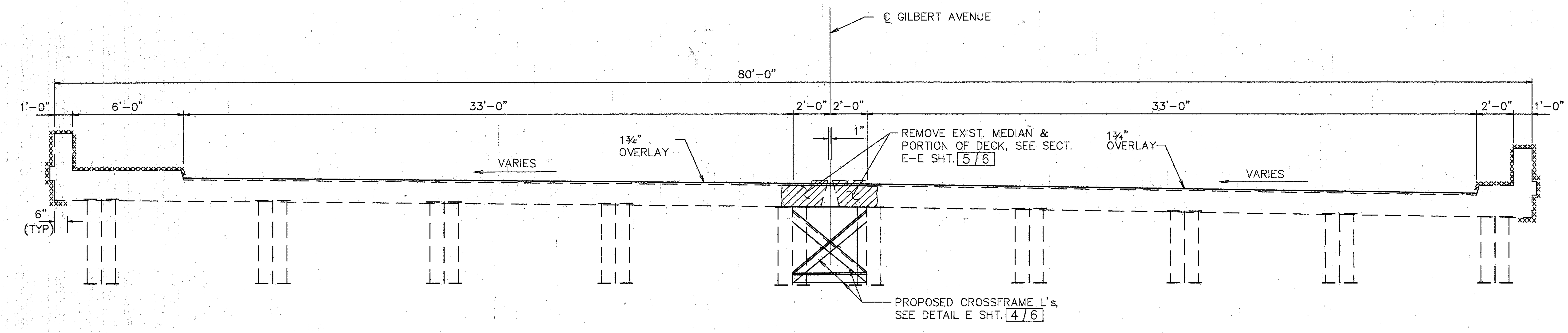
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	11/11/94	

Last Plot: JUN. 17, 1991 @ 8:08 AM G:\STR\16586-03\ASHLAND\2020ET Last Revision By: RACH JUL. 15, 1994 @ 1:39 PM

CALC. BY LATM DATE 4-23-94 CHK'D. BY DEM DATE 10-?-94	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	315 / 401



NOTE: SEAL CURBS, SIDEWALS, PARAPETS, PIERS, AND BACKWALLS. SEAL PIER COMPLETELY EXCEPT FOR T/PIER CAP.



TYP. BRIDGE SECTION

××× SURFACES TO BE SEALED UNDER ITEM SPECIAL—SEALING OF CONCRETE SURFACES.

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL PLATE GIRDER WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPAN: VARIES (124.60', 150.48' C/C BRG'S MEASURED ALONG ℄ GILBERT AVE.(RELOCATED)
ROADWAY: 70'-0" F/F CURBS INCL. 4'-0" RAISED MEDIAN W/2'-0" SAFETY CURB N.B. RDWY. & 6'-0" SIDEWALK S.B. RDWY.
SKEW: VARIES
LOADING FREQUENCY: C.F.=2000 (57)
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: VARIES
SUPERELEVATION: VARIES

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1/6

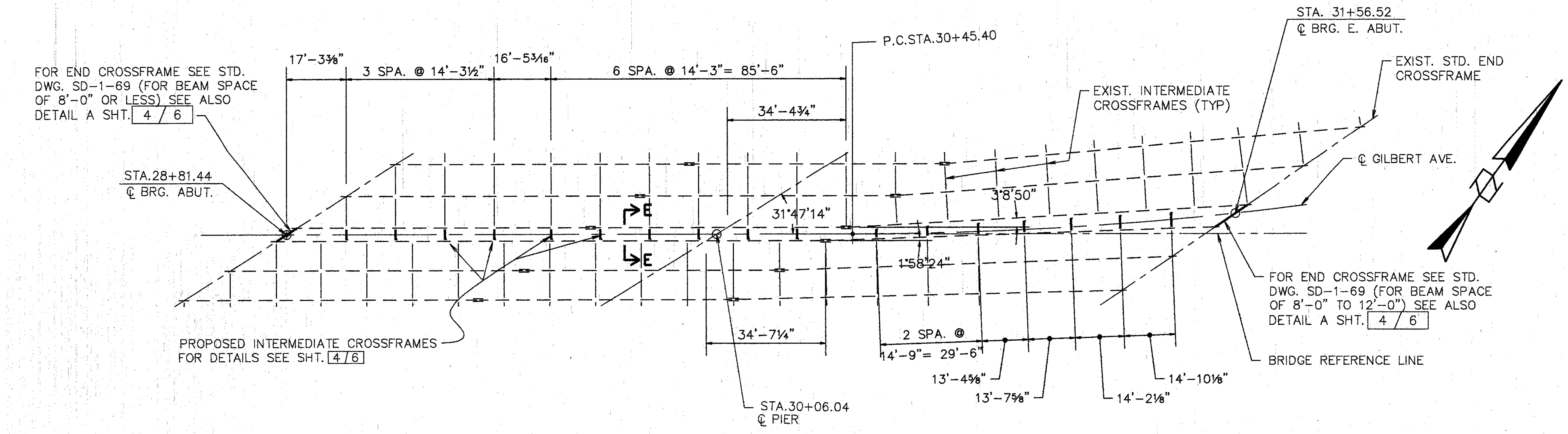
GENERAL PLAN

BRIDGE NO. HAM-22-0145 (HAM-71-0214)
GILBERT AVENUE

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 11/11/94	

Last Plot: JUN. 20, 1991 @ 4:55 PM Last Revision By: RADH JUN. 2, 1992 @ 11:23 AM
G:\STR\6596-03\ASHLAND\22-0145



MEDIAN FRAMING PLAN

NOTE:
PRIOR TO FABRICATION OF INTERMEDIATE CROSSFRAMES CONTRACTOR SHALL VERIFY LOCATION OF EXISTING STIFFENERS.

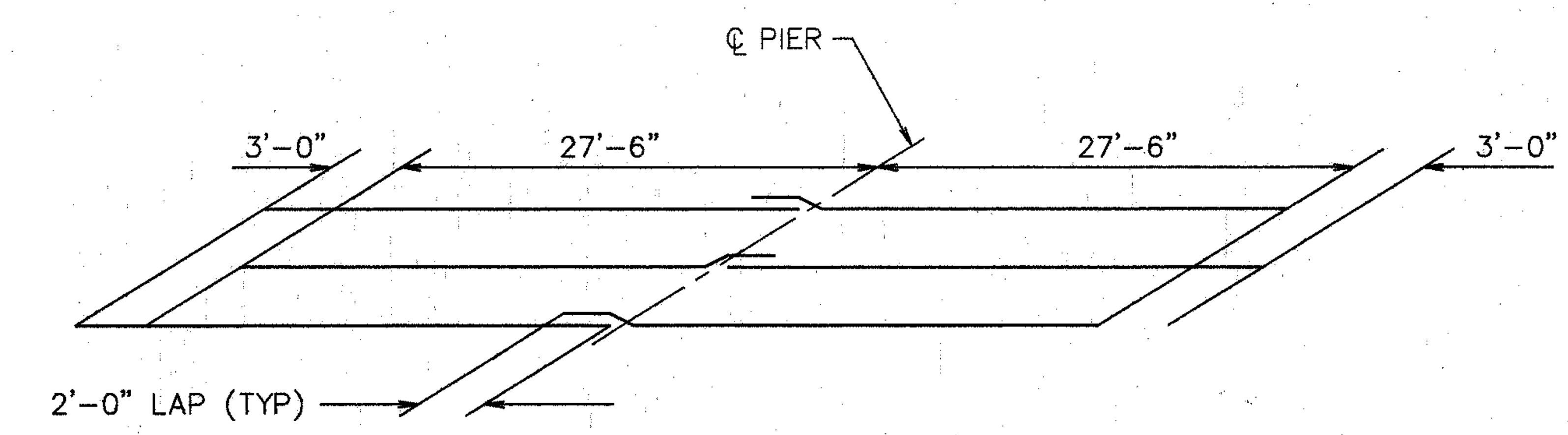
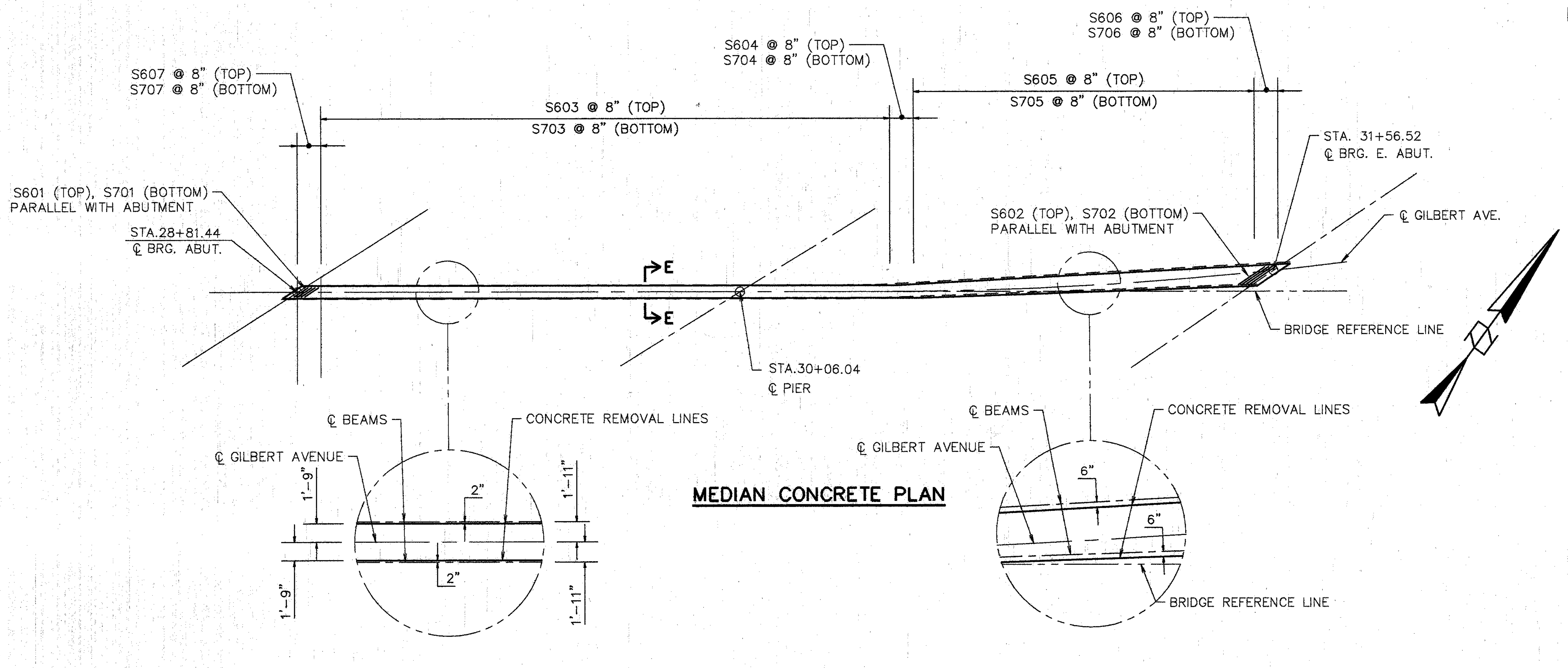


DIAGRAM SHOWING STAGGER OF S608 BARS OVER PIER



MEDIAN CONCRETE PLAN

NOTE:

STRUCTURAL STEEL FOR PROPOSED INTERMEDIATE CROSS FRAMES SHALL BE PAID FOR AS ITEM 513, STRUCTURAL STEEL FOR REHABILITATION. STRUCTURAL STEEL UNDER THIS ITEM WILL NOT REQUIRE SHOP DRAWINGS PRIOR TO FABRICATION. THE CONTRACTOR SHALL MAKE NECESSARY MEASUREMENTS AND PREPARE SKETCHES, DRAWINGS, TABLES, ETC. THE ENGINEER SHALL HAVE THE AUTHORITY AND RESPONSIBILITY FOR ENSURING THAT THE FABRICATED STEEL IS ACCEPTABLE. TECHNICAL ASSISTANCE WILL BE PROVIDED ON REQUEST BY THE BUREAU OF BRIDGES. MILL TEST REPORTS AND SHIPPING DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL TO ENSURE THAT THE DRAWINGS DEPICT THE STEEL AS ACTUALLY INCORPORATED INTO THE WORK. THE ENGINEER WILL THEN SEND ONE APPROVED SET TO THE BUREAU OF BRIDGES FOR INFORMATION. PAY WEIGHTS SHALL BE COMPUTED IN COMPLIANCE WITH 513 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND SUBMITTED TO THE ENGINEER FOR HIS REVIEW AND APPROVAL. THE FABRICATOR SHALL FURNISH A 35 MILLIMETER MICROFILM COPY OF EACH SHOP DRAWING, WHICH SHALL BE MOUNTED ON AN APERTURE CARD AS SPECIFIED IN 501.05.

NEW STEEL SHALL BE PAINTED ACCORDING TO PROPOSAL NOTE "*FIELD* PAINTING OF NEW STEEL, SYSTEM IZEU." COST FOR PAINTING SHALL BE INCLUDED WITH ITEM SPECIAL - PAINTING OF NEW STEEL, SYSTEM IZEU, FOR PAYMENT.

FOR DETAILS NOT SHOWN SEE SHEET 4 / 6

FOR SECTION E-E SEE SHEET 5 / 6

WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660

2 / 6

MEDIAN PLAN

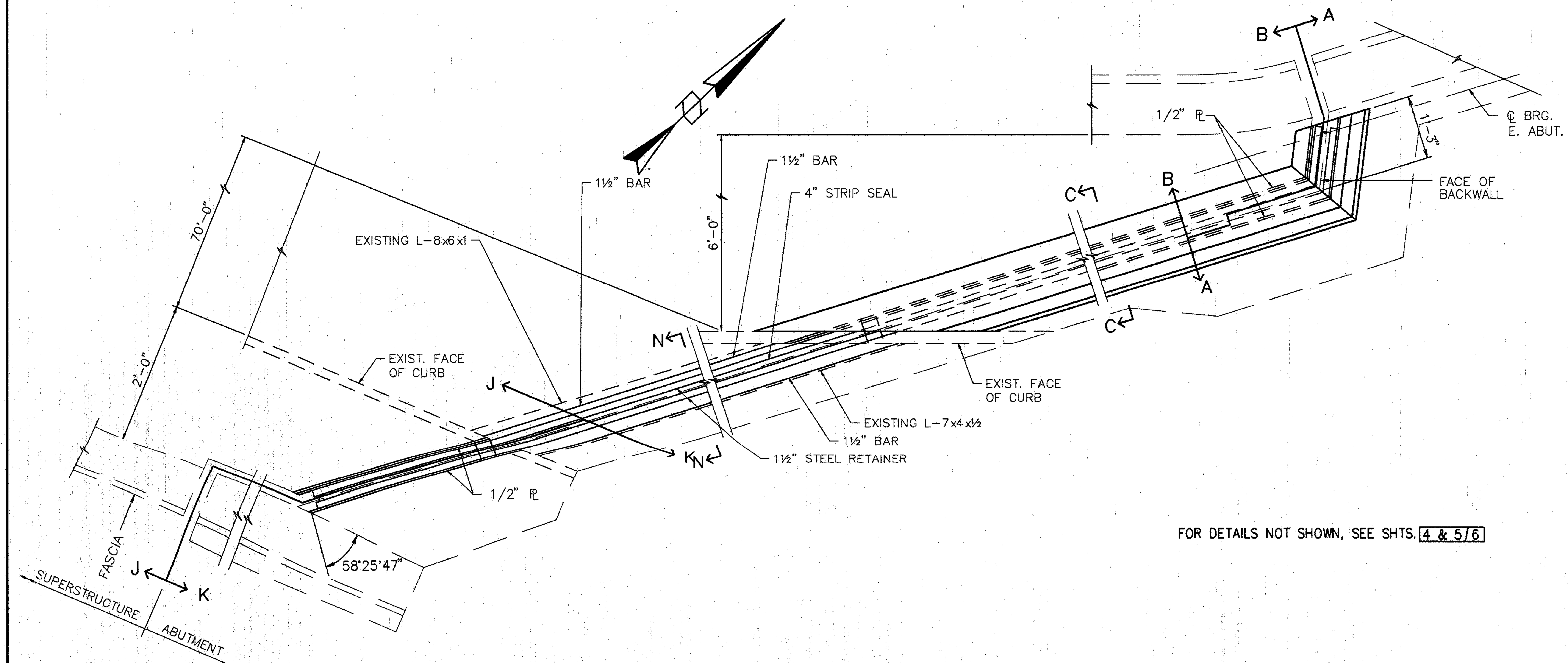
BRIDGE NO. HAM-22-0145 (HAM-71-0214)
GILBERT AVENUE

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	Rach		M.A.A.	D.E.M. 11/11/94	

Last Plot JUN. 20, 1991 @ 4:55 PM G:\STR\16566-03\ASHLAND\0145SH12 Last Revision By RACH MAY 18, 1994 @ 1:41 PM

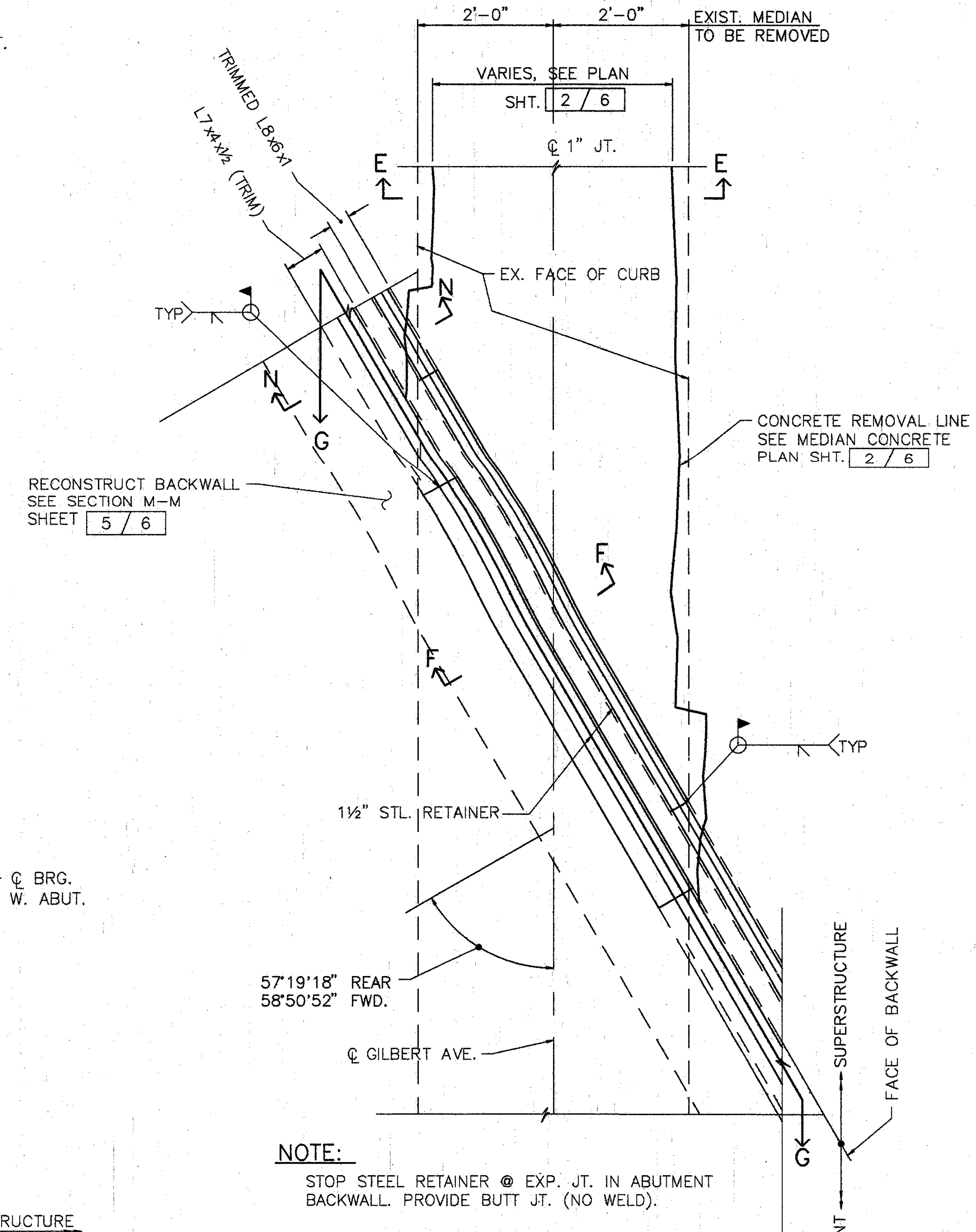
CALC. BY L.A.T.M. DATE 9-25-92 / CHK'D BY D.E.M. DATE 10-8-92	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	317 / 401



FOR DETAILS NOT SHOWN, SEE SHTS. 4 & 5/6

PART. PLAN @ FWD. ABUTMENT

SEE PART. PLAN @ MEDIAN FOR MEDIAN AND MEDIAN TREATMENT

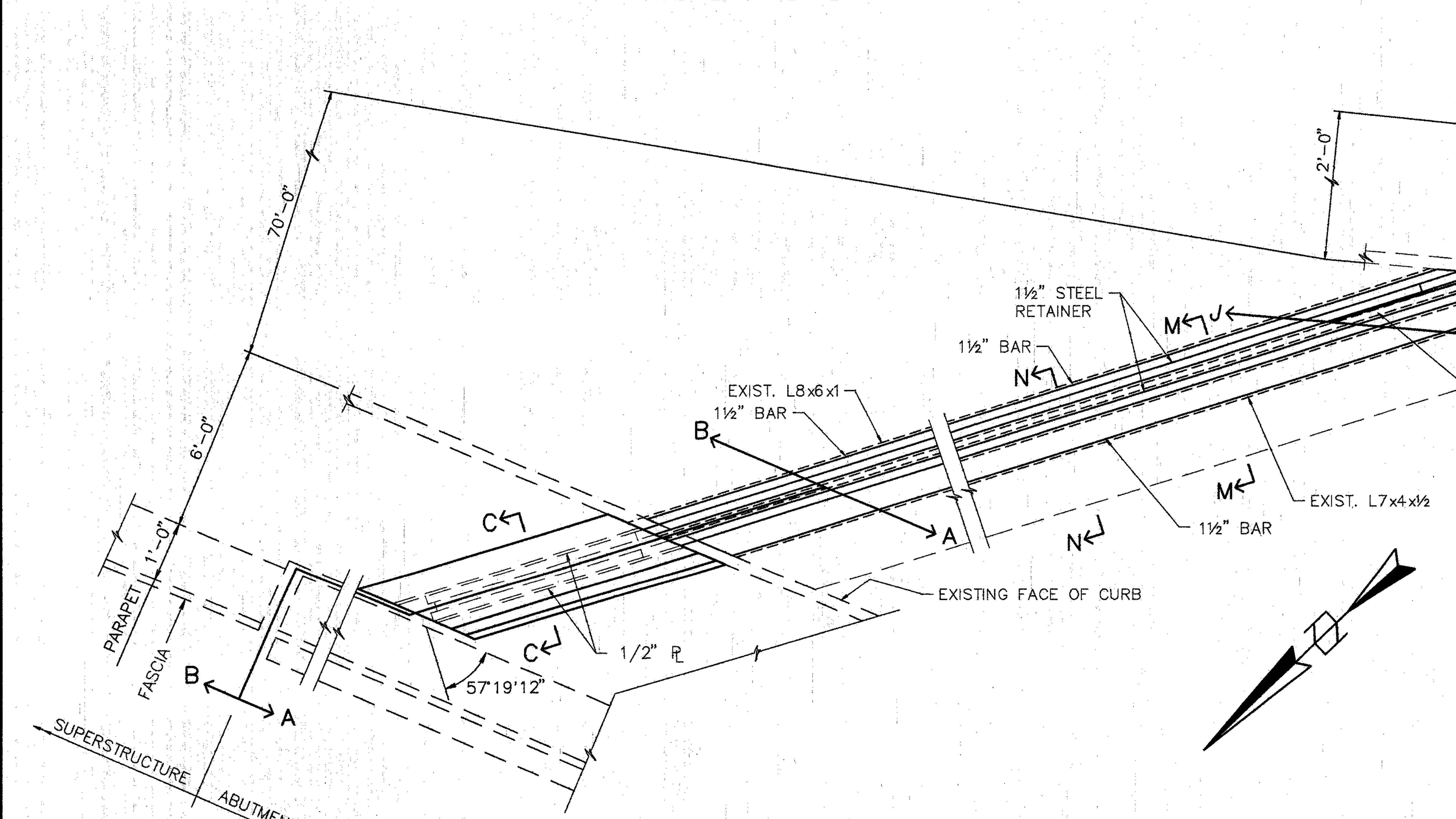


NOTE:

STOP STEEL RETAINER @ EXP. JT. IN ABUTMENT BACKWALL. PROVIDE BUTT JT. (NO WELD).

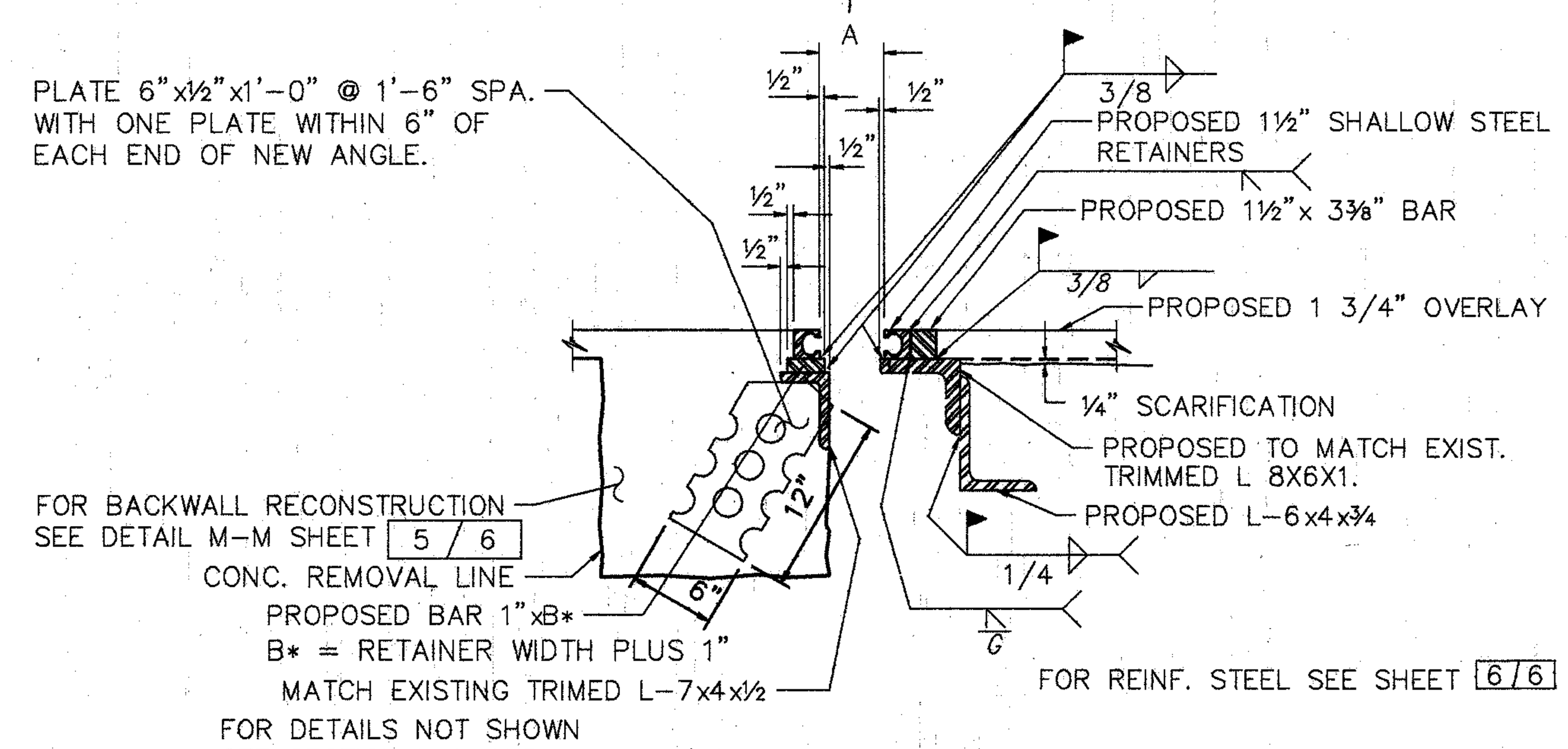
PART. PLAN MEDIAN @ REAR AND FORWARD ABUTMENTS

REAR SHOWN, FWD. SIMILAR



PART. PLAN @ REAR ABUTMENT

SEE PART. PLAN @ MEDIAN FOR MEDIAN AND MEDIAN TREATMENT



SECTION F-F

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DAYTON, OHIO 45402-1226
(513) 461-5660

3/6

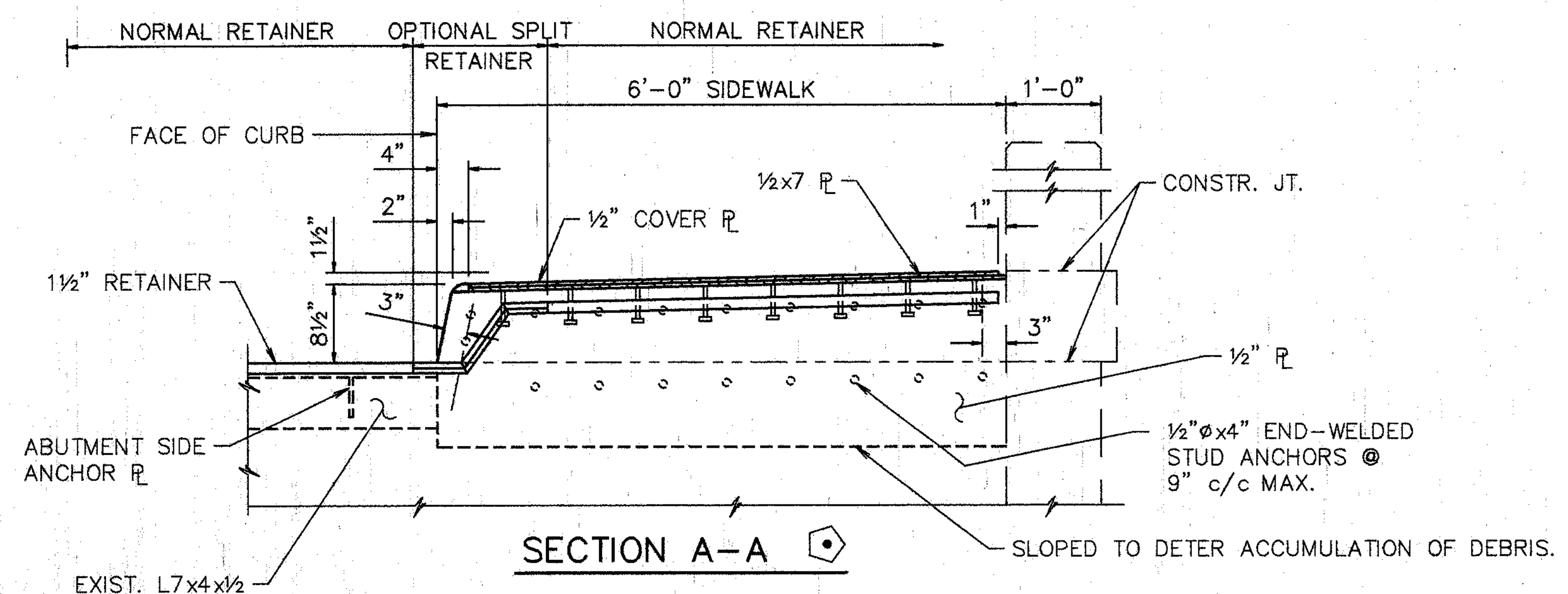
PART PLANS @ ABUTMENTS

BRIDGE NO. HAM-22-0145 (HAM-71-0214)
GILBERT AVENUE

HAMILTON COUNTY

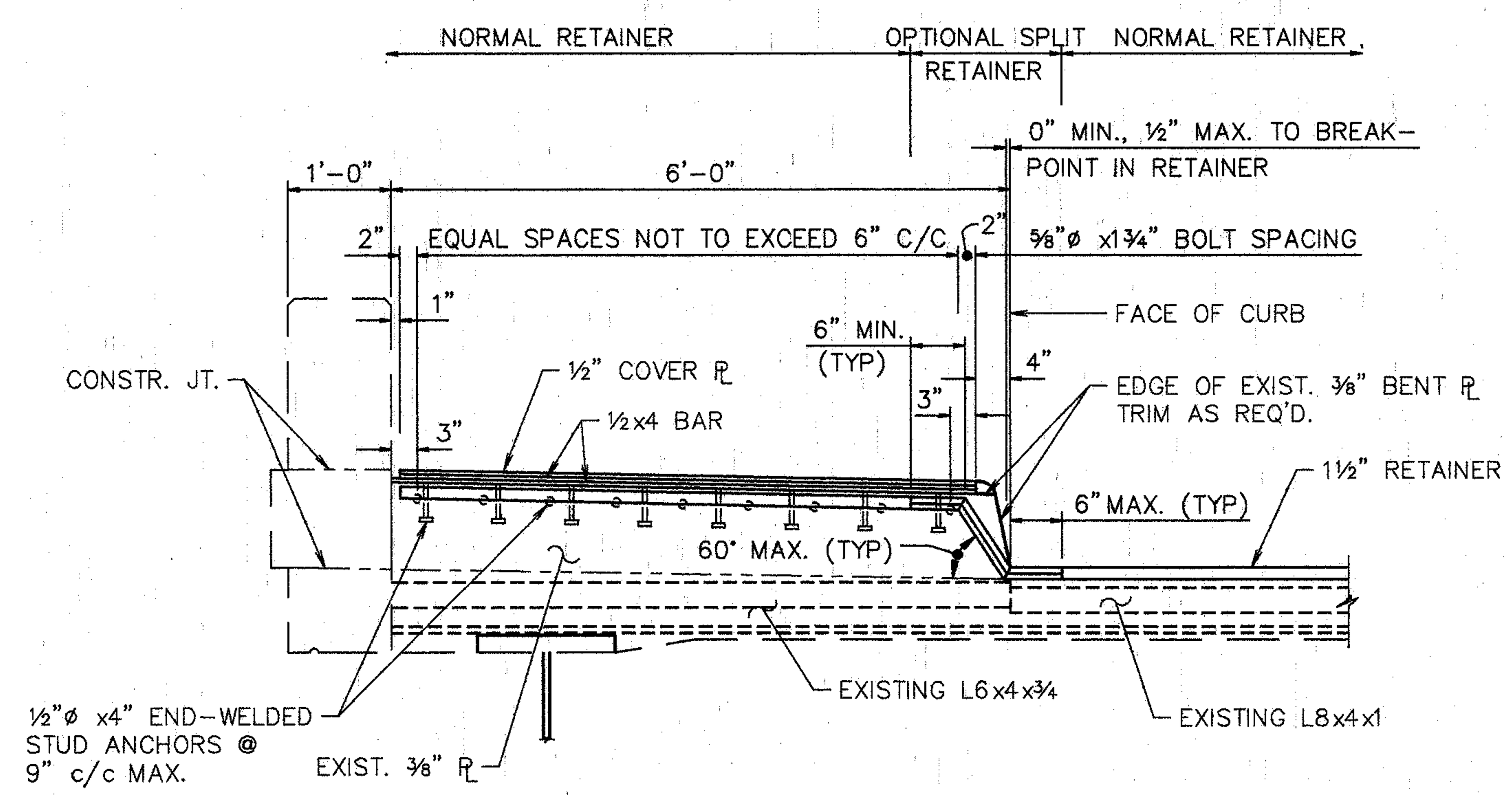
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 1/11/94	

Last Plot: JUN. 20, 1991 @ 4:56 PM G:\STR\18586-03\ASHLAND\0145SHT3 Last Revision By: RACH JUN. 2, 1992 @ 10:38 AM



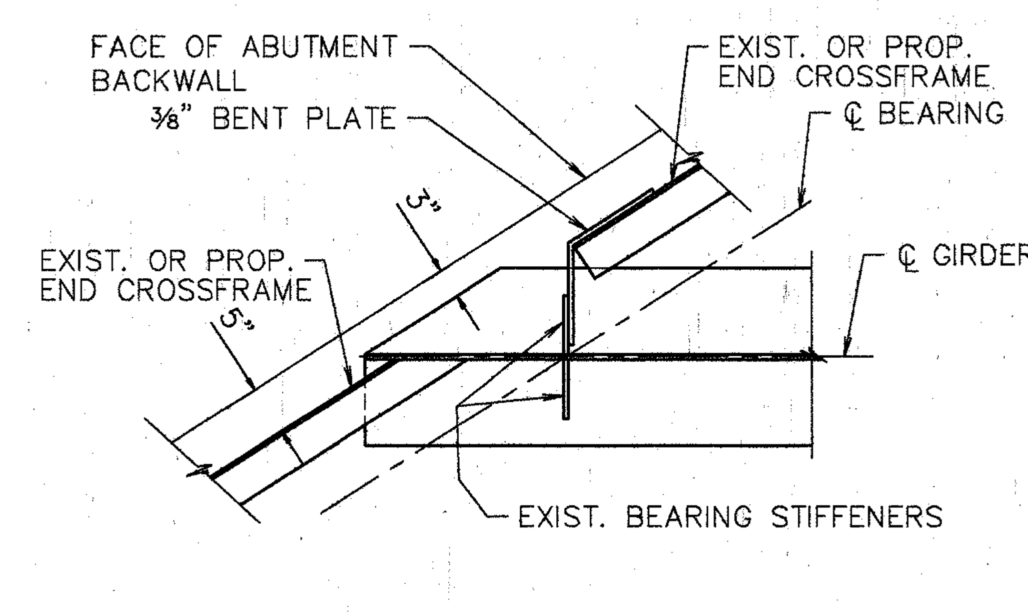
SECTION A-A

— SIDEWALK AND PARAPET JOINT ARMOR ANCHORS:
IN LIEU OF THE ½"ø END-WELDED STUDS SHOWN, ALTERNATE METHODS OF ANCHORING THE ½" PLATES MAY BE USED, SUBJECT TO APPROVAL BY THE DIRECTOR.

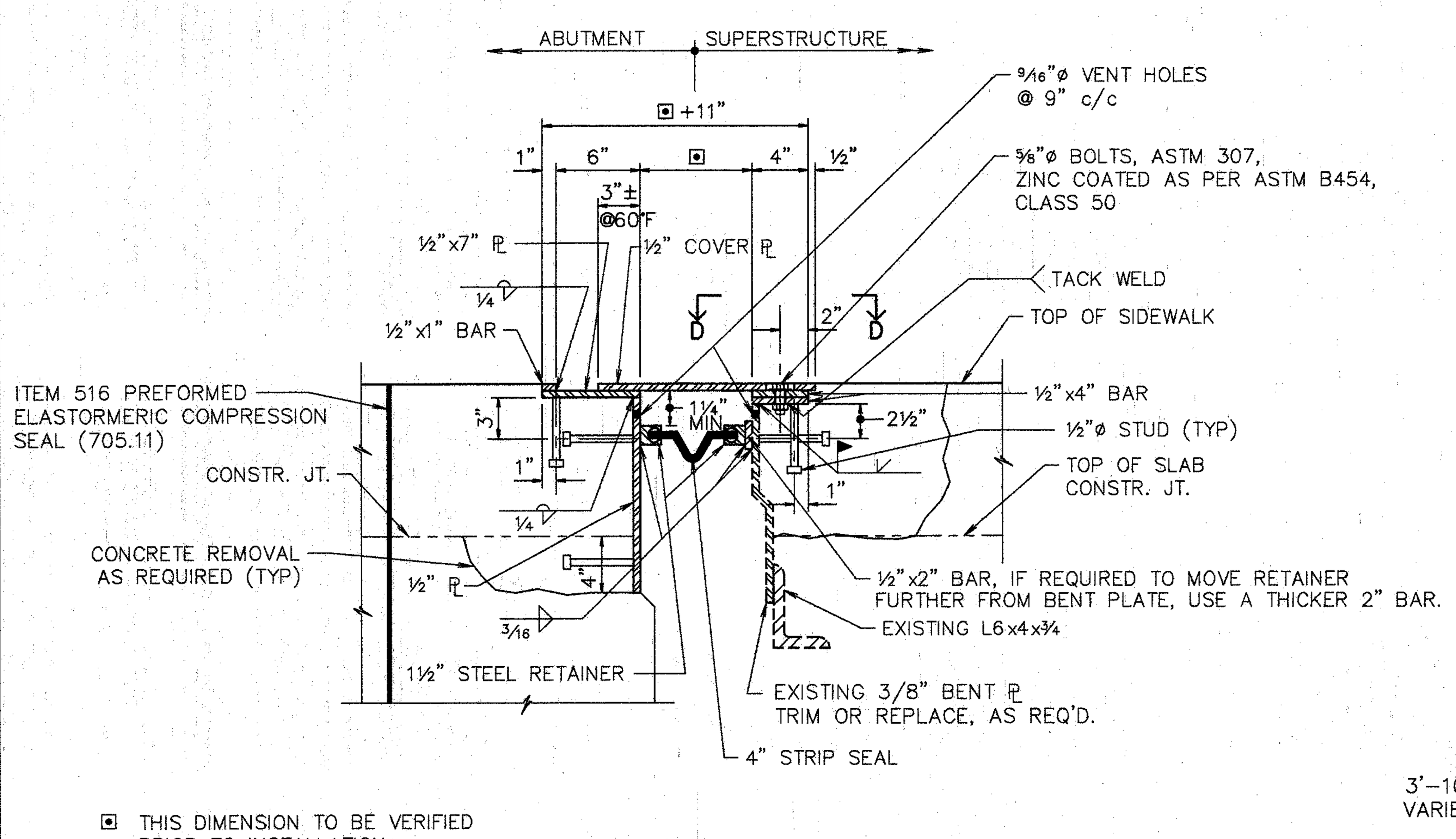


SECTION B-B

NOTE: REMOVE ⅜" BENT FORM ℙ LEAVE L6x4x¾ INTACT

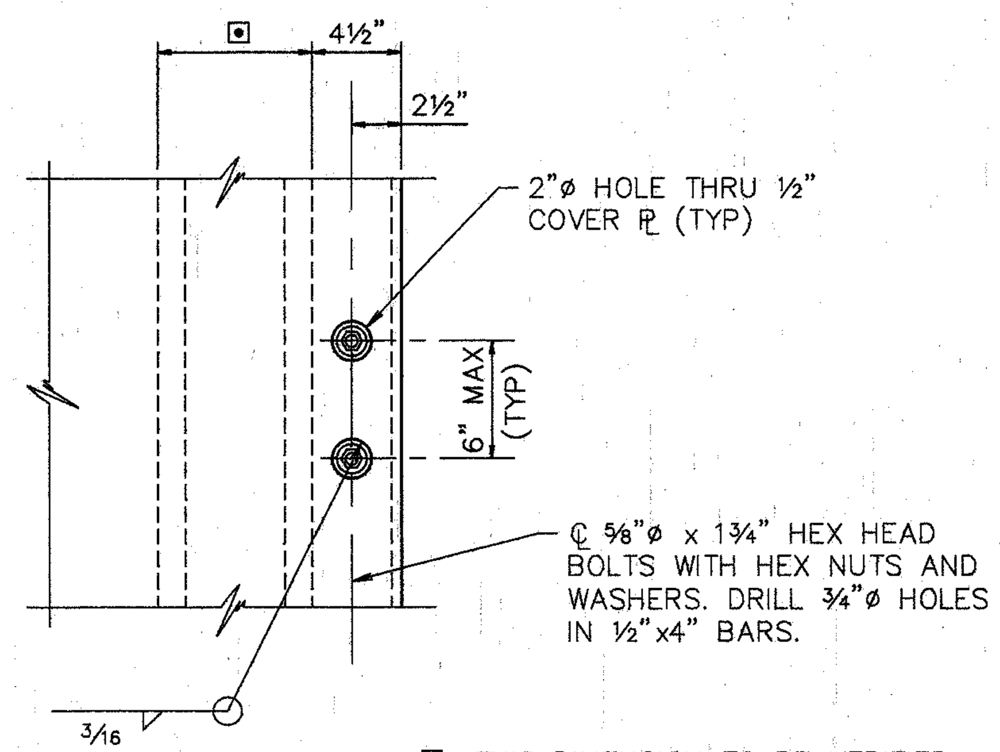


DETAIL A



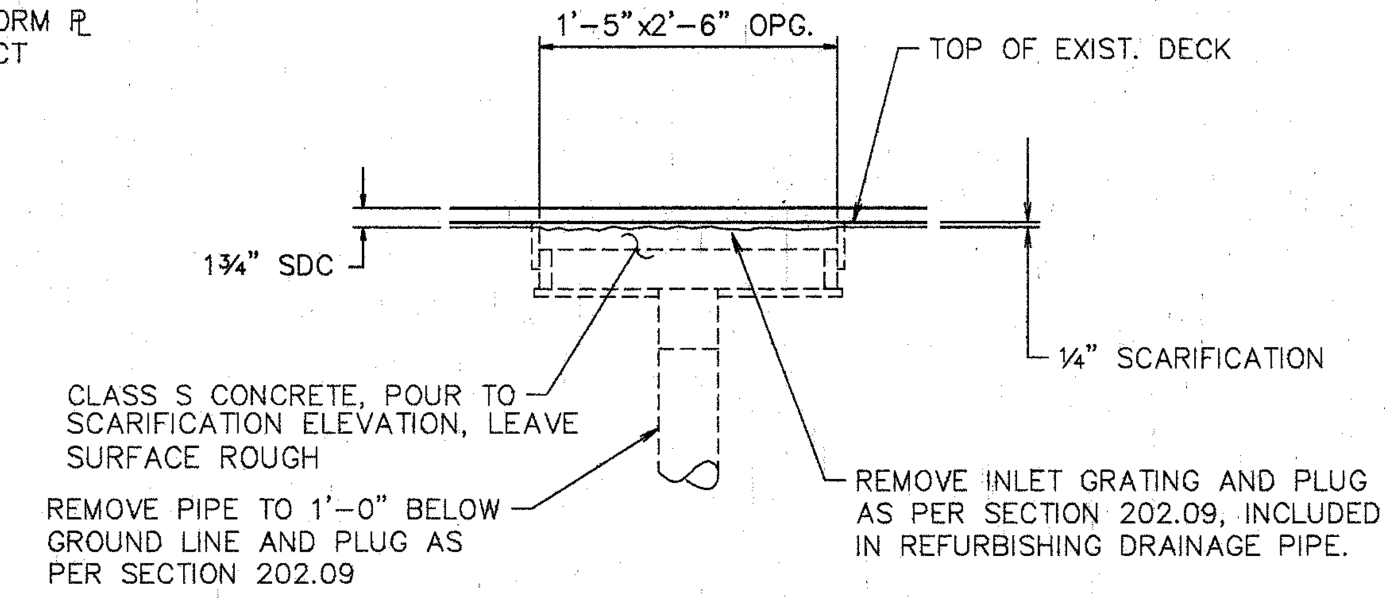
THIS DIMENSION TO BE VERIFIED PRIOR TO INSTALLATION.

SECTION C-C



THIS DIMENSION TO BE VERIFIED PRIOR TO INSTALLATION.

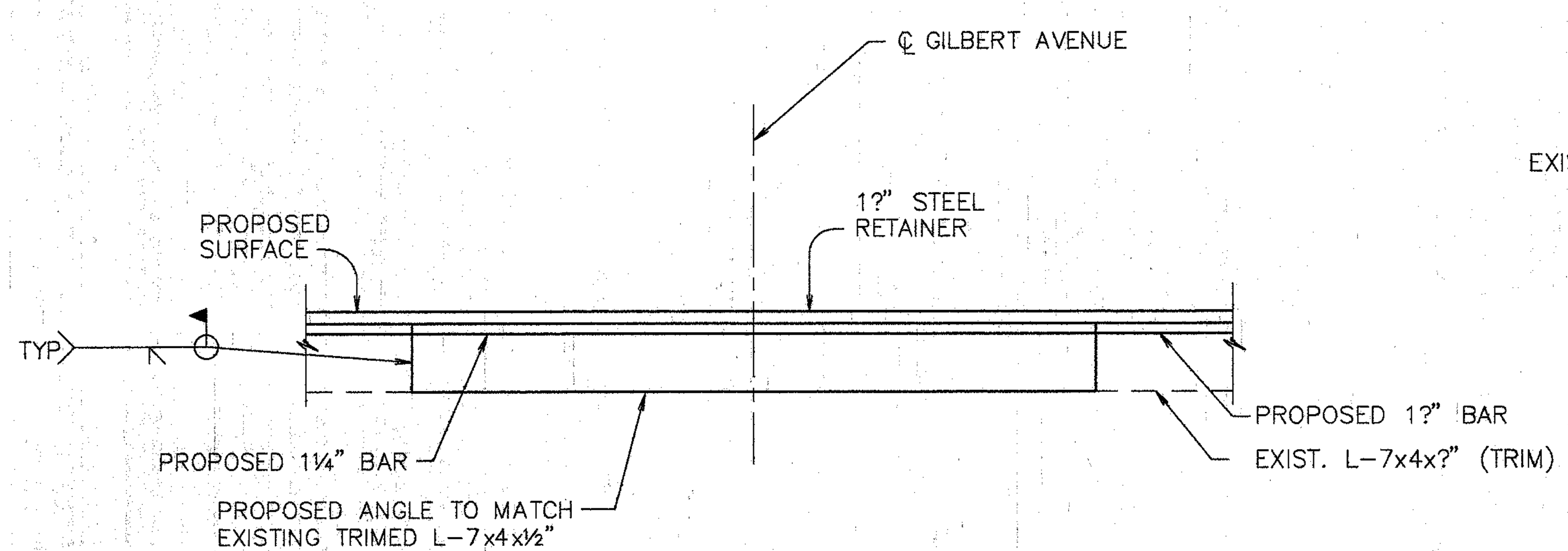
VIEW D-D



INLET ABANDONING

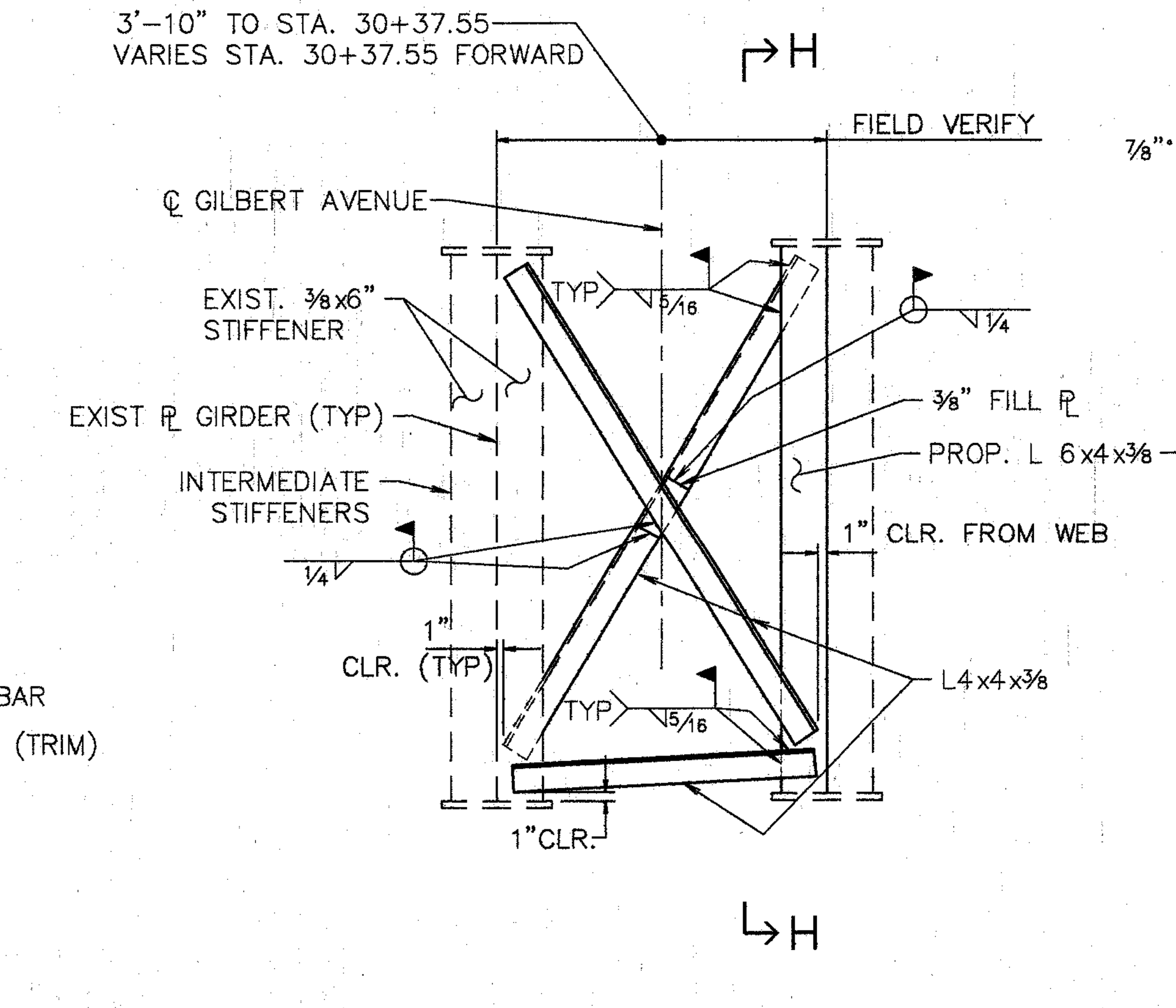
NOTES:

- STRUCTURAL STEEL FOR PROPOSED INTERMEDIATE CROSSFRAMES SHALL BE PAID FOR AS ITEM 513, STRUCTURAL STEEL FOR REHABILITATION. STRUCTURAL STEEL UNDER THIS ITEM WILL NOT REQUIRE SHOP DRAWINGS PRIOR TO FABRICATION. THE CONTRACTOR SHALL MAKE NECESSARY MEASUREMENTS AND PREPARE SKETCHES, DRAWINGS, TABLES, ETC. THE ENGINEER SHALL HAVE THE AUTHORITY AND RESPONSIBILITY FOR ENSURING THAT THE FABRICATED STEEL IS ACCEPTABLE. TECHNICAL ASSISTANCE WILL BE PROVIDED ON REQUEST BY THE BUREAU OF BRIDGES. MILL TEST REPORTS AND SHIPPING DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL TO ENSURE THAT THE DRAWINGS DEPICT THE STEEL AS ACTUALLY INCORPORATED INTO THE WORK. THE ENGINEER WILL THEN SEND ONE APPROVED SET TO THE BUREAU OF BRIDGES FOR INFORMATION. PAY WEIGHTS SHALL BE COMPUTED IN COMPLIANCE WITH 513 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND SUBMITTED TO THE ENGINEER FOR HIS REVIEW AND APPROVAL. THE FABRICATOR SHALL FURNISH A 35 MILLIMETER MICROFILM COPY OF EACH SHOP DRAWING, WHICH SHALL BE MOUNTED ON A APERTURE CARD AS SPECIFIED IN 501.05.
- NEW STEEL SHALL BE PAINTED ACCORDING TO THE PROPOSAL NOTE 338 ENTITLED "PAINTING OF NEW STEEL, SYSTEM IZEU". COST FOR PAINTING SHALL BE INCLUDED WITH ITEM SPECIAL – PAINTING OF NEW STEEL, SYSTEM IZEU, FOR PAYMENT.

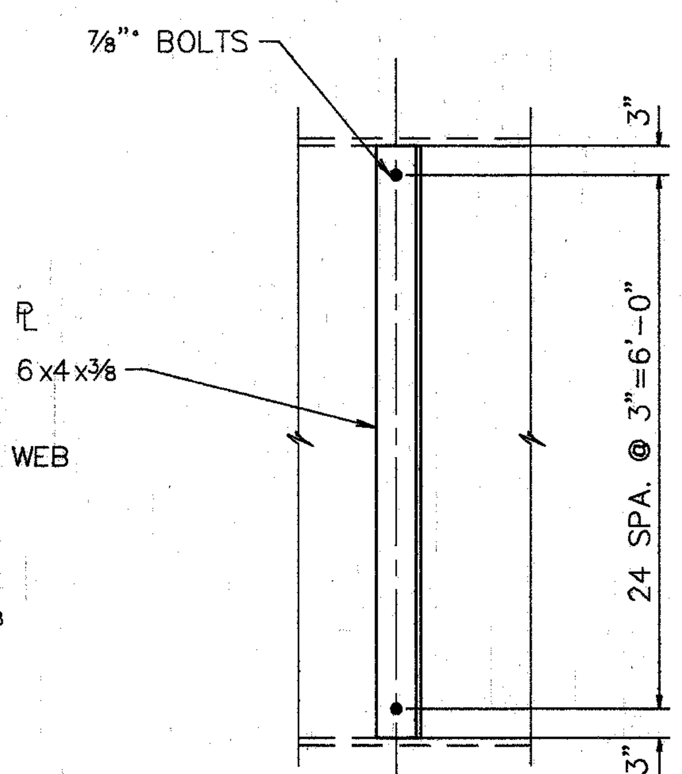


SECTION G-G

DISCONT. STEEL RETAINER AT EXP. JT. IN BACKWALL (TYP)



DETAIL E



SECTION H-H

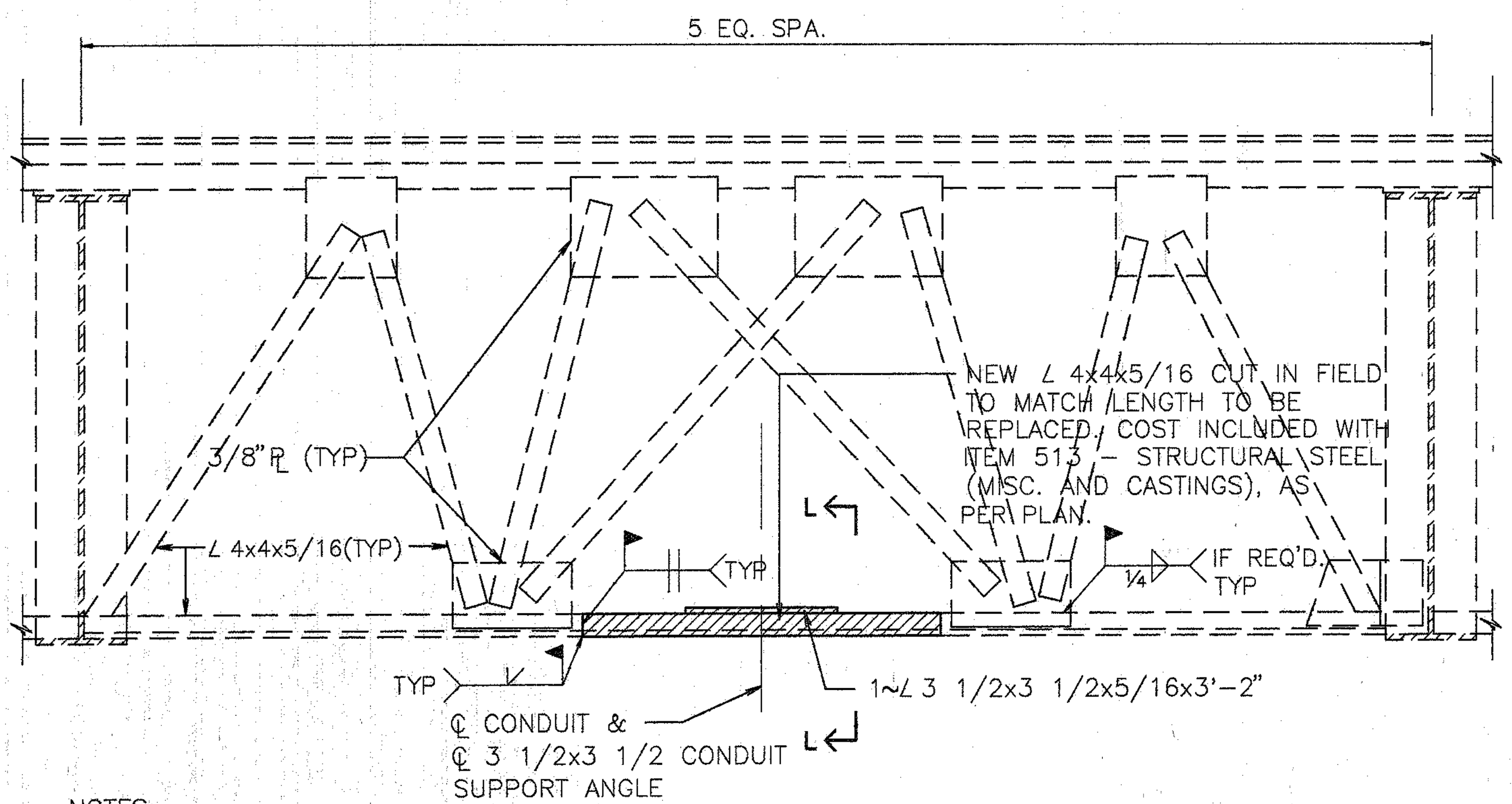
WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660

4 / 6

MISCELLANEOUS DETAILS

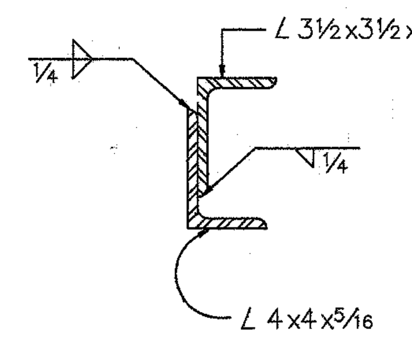
BRIDGE NO. HAM-22-0145 (HAM-71-0214)
GILBERT AVENUE
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	1/11/94	

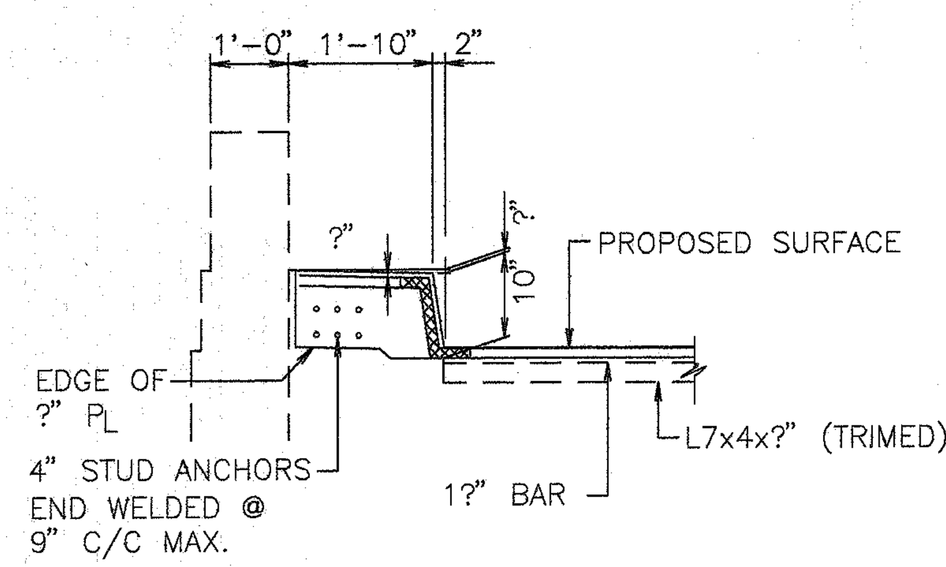


NOTES:
1. CONTRACTOR IS TO CLEAN BOTTOM ANGLE AND REPLACE LENGTH OF ANGLE AS DIRECTED BY THE ENGINEER. SUPPORT EXIST. CONDUITS AS REQ'D.
2. PREPARE, PRIME, & PAINT BOTTOM ANGLES AS PER PROPOSAL NOTE "FIELD PAINTING OF EXIST. STEEL, USING EPOXY AND URETHANE (EEU)," AT LEAST 2" BEYOND NEW STEEL. ALL WORK TO BE INCLUDED IN PRICE BID FOR ITEM 513 - STRUCTURAL STEEL (MISC. AND CASTINGS), AS PER PLAN.

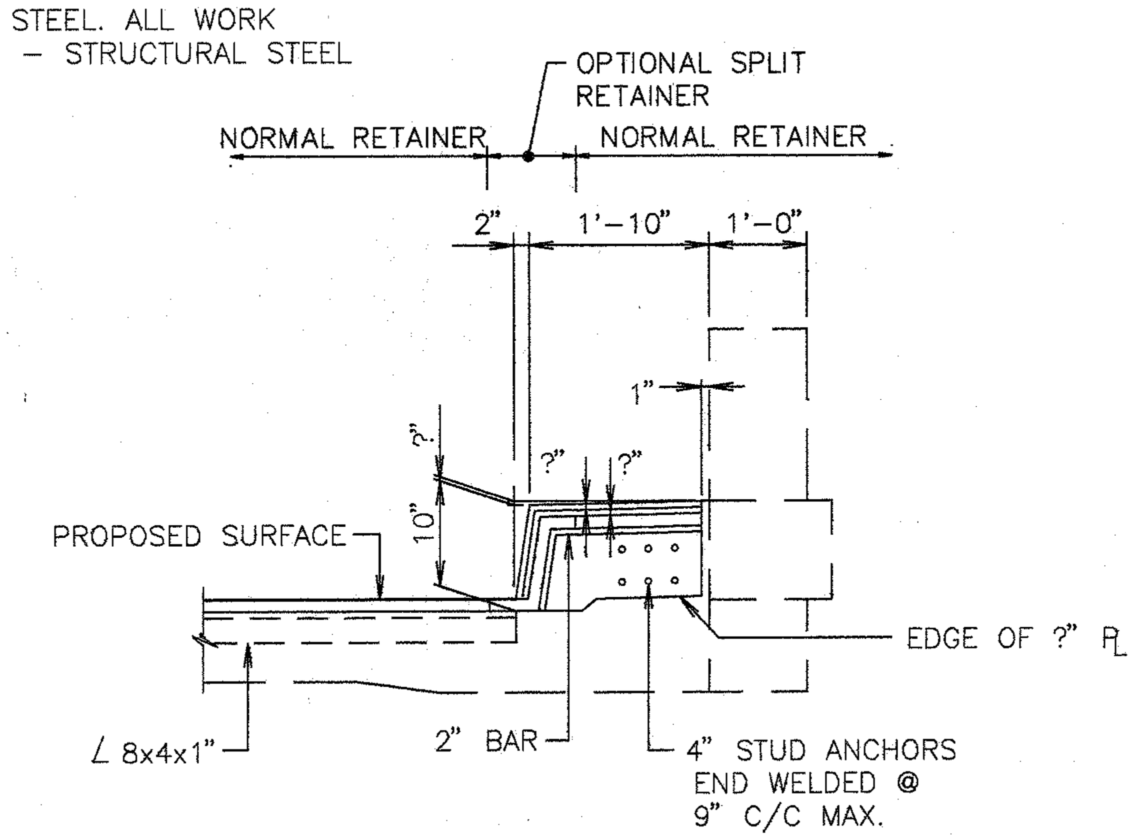
END CROSSFRAME REPAIR
(FORWARD ABUTMENT ONLY)
(2 TIMES)



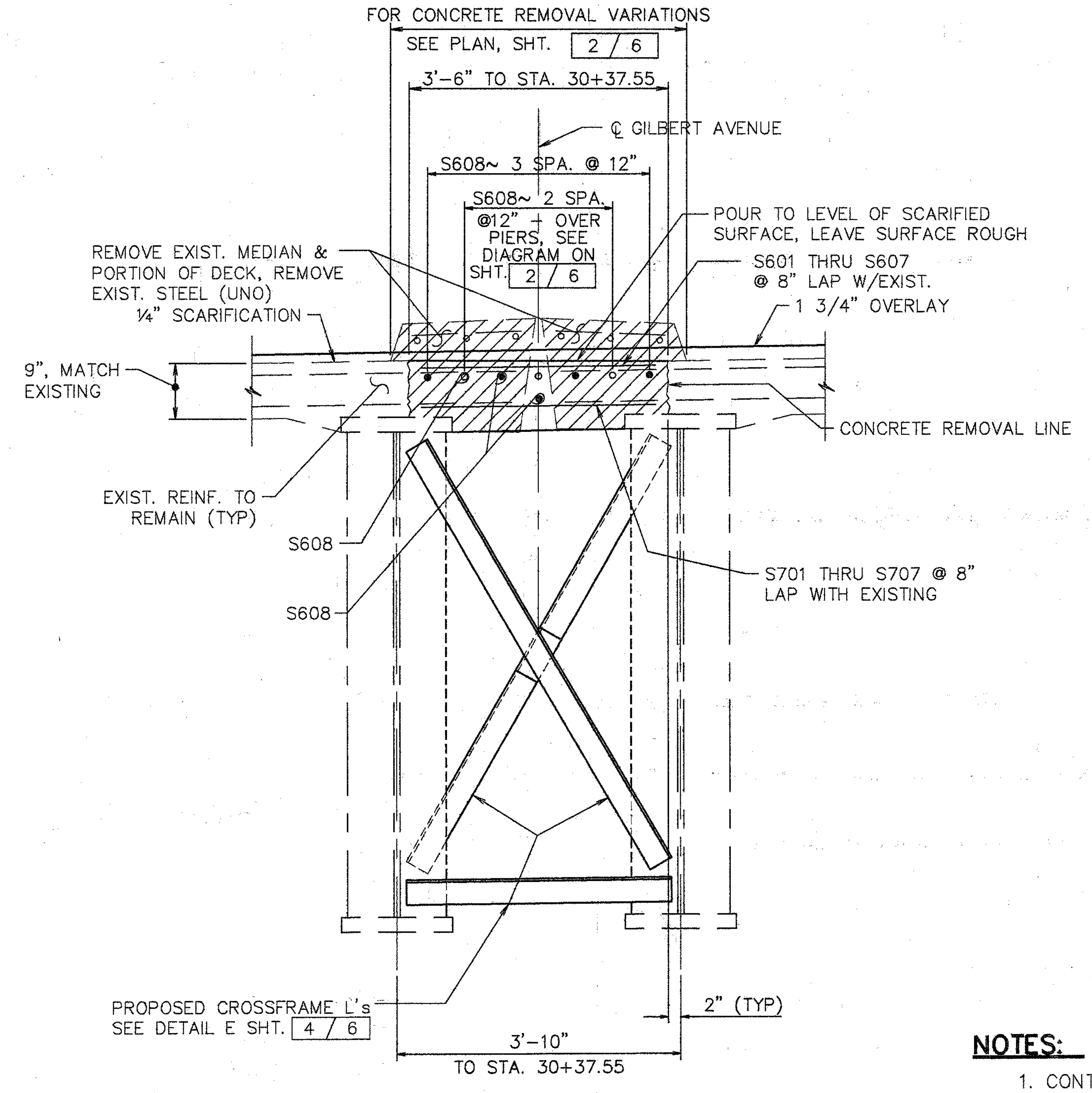
SECTION L-L



SECTION K-K



SECTION J-J



SECTION E-E

NOTE: MIN. LAP FOR #6 BAR IS 2'-0"

CUT LINE JOINT PREPARATION:
SAW CUT BOUNDARIES OF PROPOSED CONCRETE REMOVALS 1" DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. WHERE PRACTICABLE, AT LEAST 2'-0" LENGTH OF PROTRUDING REINFORCING STEEL SHALL BE LEFT IN PLACE. INSTALL DOWEL BARS AS SPECIFIED. PRIOR TO CONCRETE PLACEMENT, ABRASIVELY CLEAN JOINT SURFACE AND EXPOSED REINFORCEMENT TO REMOOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THEN, THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE, OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. CONCRETE BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

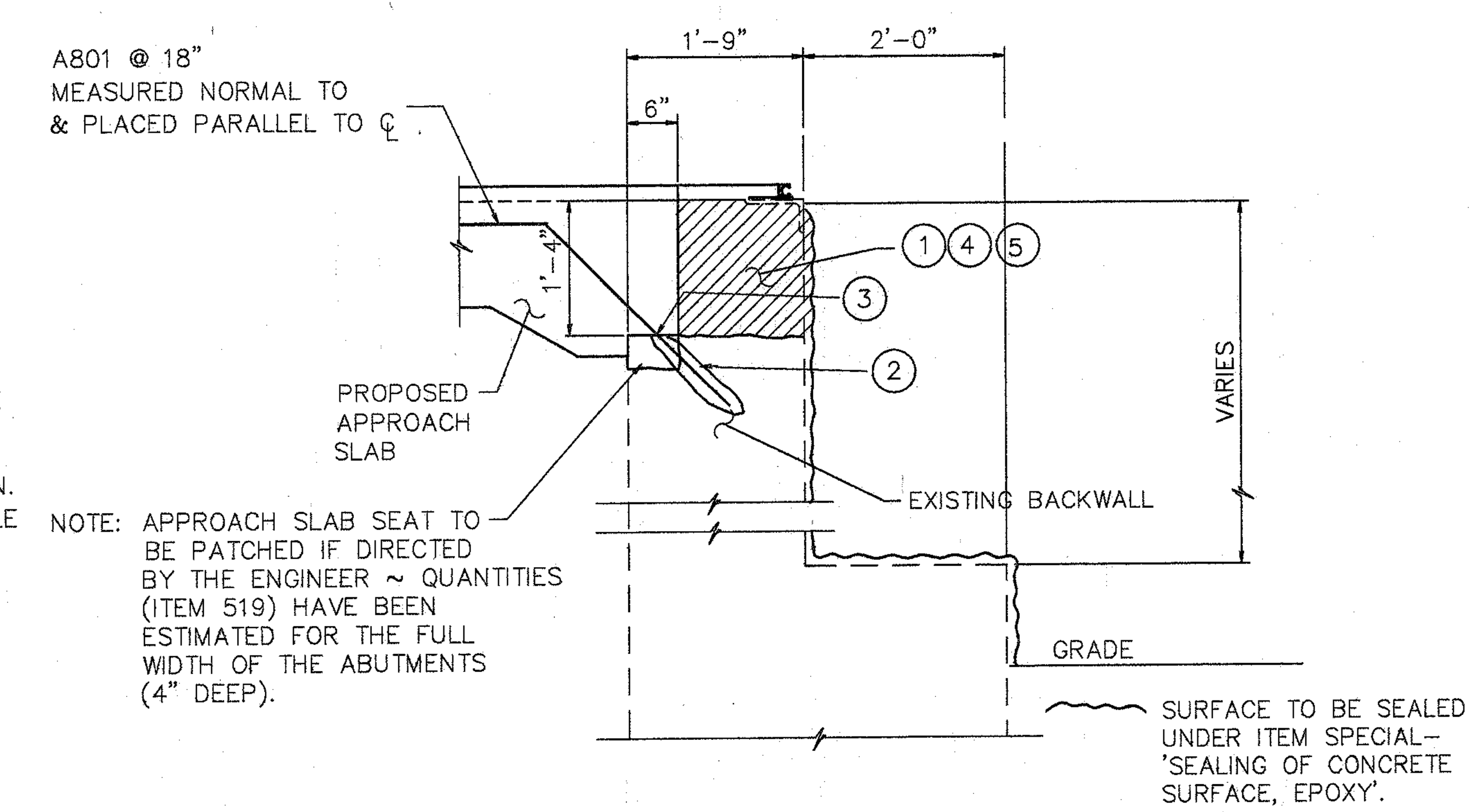
SUPERSTRUCTURE CONCRETE REMOVAL:
CONCRETE REMOVAL SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, A HAMMER HEAVIER THAN 35 POUNDS, BUT NOT TO EXCEED 85 POUNDS, MAY BE USED AT THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

NOTES:
1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO MODIFYING THE EXPANSION JOINT.
2. THE PRICE BID FOR ITEM 516-'STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS', SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY OTHER INCIDENTIAL ITEMS, AS DETAILED. REMOVAL OF CURB OR PARAPET AS SHOWN SHALL BE INCLUDED UNDER ITEM 202-'PORTIONS OF STRUCTURE REMOVED.
3. FOR DETAILS NOT SHOWN REFER TO DRAWING EXJ-4-87 SHEETS 3 AND 4.
4. STRIP SEAL TO BE INSTALLED IN ONE CONTINUOUS PIECE (NO OPEN JOINTS).
5. PROVIDE TEMPORARY SUPPORT FOR ABUTMENT END DAM DURING CONSTRUCTION. REMOVE TEMPORARY SUPPORT AS SOON AS CONCRETE HAS SET, PREFERABLY WITHIN TWO HOURS AFTER PLACING TO AVOID DAMAGE DUE TO EXPANSION AND CONTRACTION OF SUPERSTRUCTURE.

NOTES FOR SECTION M-M
1. EXISTING REINFORCING STEEL TO REMAIN ~ REINFORCING STEEL DAMAGED TO BE REPLACED AT CONTRACTORS EXPENSE.
2. 1' MIN. EMBEDMENT (SEE DOWEL HOLE GENERAL NOTE) ITEM 510.
3. TYPE 'A' WATERPROOFING (PAYMENT INCLUDED IN THE PRICE BID FOR APPROACH SLAB).
4. CLASS 'C' CONCRETE, ABUTMENT RECONSTRUCTION.
5. PROVIDE CONTRACTION AND EXPANSION JOINTS TO MATCH THOSE IN EXISTING BACKWALL AND PROVIDE CONSTRUCTION JOINTS AS REQUIRED TO MAINTAIN TRAFFIC. PAYMENT TO BE INCLUDED IN PRICE BID FOR ITEM 511 CLASS C CONCRETE RECONSTRUCTION.
6. PROVIDE TEMPORARY SUPPORT FOR END DAM ANGLE AT ABUTMENT DURING CONSTRUCTION. REMOVE TEMPORARY SUPPORT AS SOON AS CONCRETE HAS SET, PREFERABLY WITHIN 2HRS. AFTER PLACING TO TO AVOID DAMAGE DUE TO EXPANSION AND CONTRACTION OF SUPERSTRUCTURE.

EXISTING CONCRETE TO BE REMOVED INCLUDE IN ITEM 202 FOR PAYMENT.

SURFACE TO BE SEALED UNDER ITEM SPECIAL- 'SEALING OF CONCRETE SURFACE, EPOXY'.

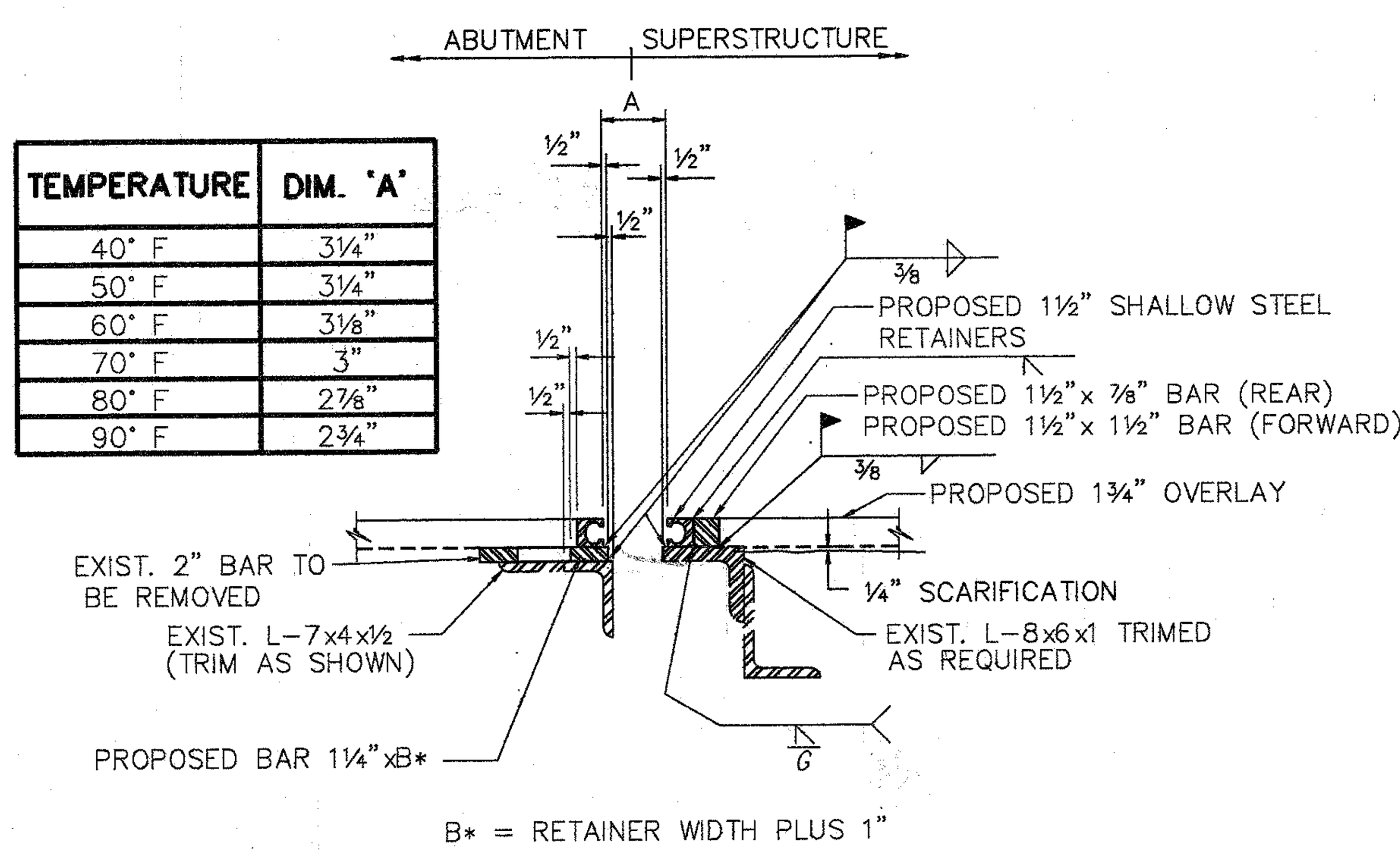


NOTE: APPROACH SLAB SEAT TO BE PATCHED IF DIRECTED BY THE ENGINEER ~ QUANTITIES (ITEM 519) HAVE BEEN ESTIMATED FOR THE FULL WIDTH OF THE ABUTMENTS (4" DEEP).

SURFACE TO BE SEALED UNDER ITEM SPECIAL- 'SEALING OF CONCRETE SURFACE, EPOXY'.

SECTION M-M

TEMPERATURE	DIM. 'A'
40° F	3¼"
50° F	3¼"
60° F	3⅛"
70° F	3"
80° F	2⅞"
90° F	2¾"



B* = RETAINER WIDTH PLUS 1"

SECTION N-N

WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660

5/6

MISCELLANEOUS DETAILS

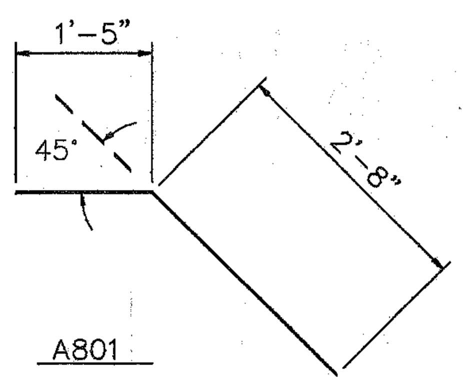
BRIDGE NO. HAM-22-0145 (HAM-71-0214)
GILBERT AVENUE

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.11'11'94	

REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
S601	STR.	4	6'-3"	38
S602	STR.	4	18'-0"	108
S603	STR.	250	3'-4"	1252
S604	STR.	10	3'-4" TO 3'-8"	53
S605	STR.	145	3'-8" TO 5'-8"	1017
S606	STR.	7	1'-4" TO 5'-1"	34
S607	STR.	3	1'-4" TO 2'-8"	9
S608	STR.	56	30'-0"	2523
S701	STR.	4	6'-3"	51
S702	STR.	4	18'-0"	147
S703	STR.	250	3'-4"	1703
S704	STR.	10	3'-4" TO 3'-8"	72
S705	STR.	145	3'-8" TO 5'-8"	1384
S706	STR.	7	1'-4" TO 5'-1"	46
S707	STR.	3	1'-4" TO 2'-8"	12
A801	BNT.	96	4'-0"	1025
				9474
REPLACEMENT STEEL				600
			TOTAL	10074



A801

ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	L.S.	PORTIONS OF STRUCTURES REMOVED
513	21000	13	EACH	TRIMMING OF BEAM END
509	15820	10074	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
510	12201	96	L.F.	DOWEL HOLES AS PER PLAN
511	34400	38	C.Y.	CLASS S CONCRETE, SUPERSTRUCTURE (RECONSTRUCTION) *
511	45700	19	C.Y.	CLASS C CONCRETE, ABUTMENT (RECONSTRUCTION)
SPECIAL	51267500	1319	S.Y.	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	1035	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
516	14600	50	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2" x 4" SEALER, AS PER PLAN
513	15501	300	LBS.	STRUCTURAL STEEL (MISC. AND CASTING), AS PER PLAN
513	16000	5800	LBS.	STRUCTURAL STEEL FOR REHABILITATION
514	00610	5800	LBS.	FIELD PAINTING OF NEW STEEL, SYSTEM IZEU*
514	27704	LUMP	L.S.	FIELD PAINTING, MISC: EXISTING STEEL, EEU *
516	45304	20	EACH	REFURBISH BEARING DEVICE
516	10000	30	L.F.	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL (705.11)
516	14600	100	L.F.	SEAL JOINT BETWEEN ABUTMENT AND CONCRETE SLOPE PROTECTION
516	11210	320	L.F.	STRUCTURAL EXP. JT., INCLUDING ELASTOMERIC STRIP SEAL
516	45307	1	EACH	REFURBISH BEARING DEVICE, AS PER PLAN
518	12800	3	EACH	SCUPPER MODIFICATION
519	11100	235	S.F.	PATCHING CONCRETE STRUCTURE
SPECIAL	51912600	32	L.F.	CONCRETE REPAIR BY EPOXY INJECTION *
845	40210	1976	S.Y.	LATEX MODIFIED CONCRETE MISC.: OVERLAY (1¾" THICK) ON EXISTING DECK
845	11000	81	C.Y.	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)
845	30000	2	C.Y.	FULL DEPTH REPAIR
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
601	21100	4	S.Y.	REPAIR CONCRETE SLOPE PROTECTION

* SEE PROPOSAL NOTE

PROPOSED WORK

1. SCARIFY EXISTING DECK ¼" AND REMOVE DETERIORATED CONCRETE AS DIRECTED BY ENGINEER. (REMOVE LOOSE END DAM MATERIAL)
2. REMOVE CONCRETE MEDIAN AND PORTION OF THE BRIDGE DECK. PLACE CROSSFRAME ANGLES AND RECONSTRUCT DECK.
3. PLACE 1¾" THICK LATEX MODIFIED CONCRETE ON DECK.
4. SEAL CURBS, PARAPETS, SIDEWALKS, PIERS, AND BACKWALLS.
5. RECONSTRUCT BACKWALLS ABOVE APPROACH SLAB SEAT. PATCH APPROACH SLAB SEAT IF DIRECTED BY THE ENGINEER.
6. SEAL TRANSVERSE EXPANSION JOINTS WITH STRIP SEAL.
7. REPAIR BOTTOM CROSSFRAME ANGLES BETWEEN BEAMS 7 AND 8 AND BEAMS 8 AND 9 AT EAST ABUTMENT (FORWARD).
8. REFURBISH ALL ABUTMENT BEARINGS.
9. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION AND ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTENANCE OF TRAFFIC PLANS. MAINTENANCE OF TRAFFIC PLANS REQUIRES CONSTRUCTION PHASING LIMITS AT LANE CENTERLINES. DUE TO THESE LIMITS, OVERLAY AND ABUTMENT BACKWALL RECONSTRUCTION MAY REQUIRE SPECIAL ATTENTION.
10. OTHER WORK AS DESCRIBED IN THESE PLANS.

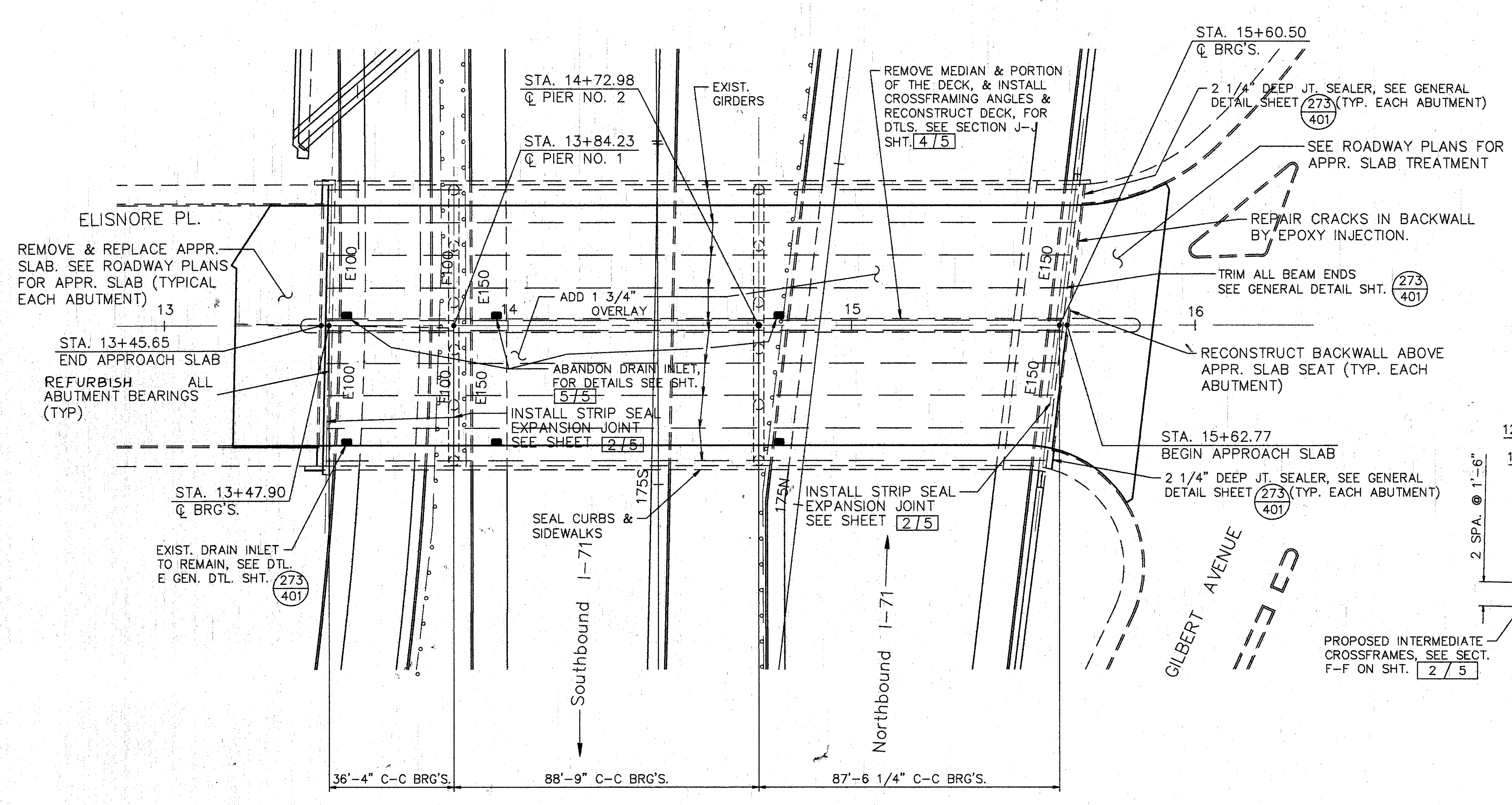
WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660

QUANTITIES AND GENERAL NOTES

BRIDGE NO. HAM-22-0145 (HAM-71-0214)
GILBERT AVENUE

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 11/11/94	

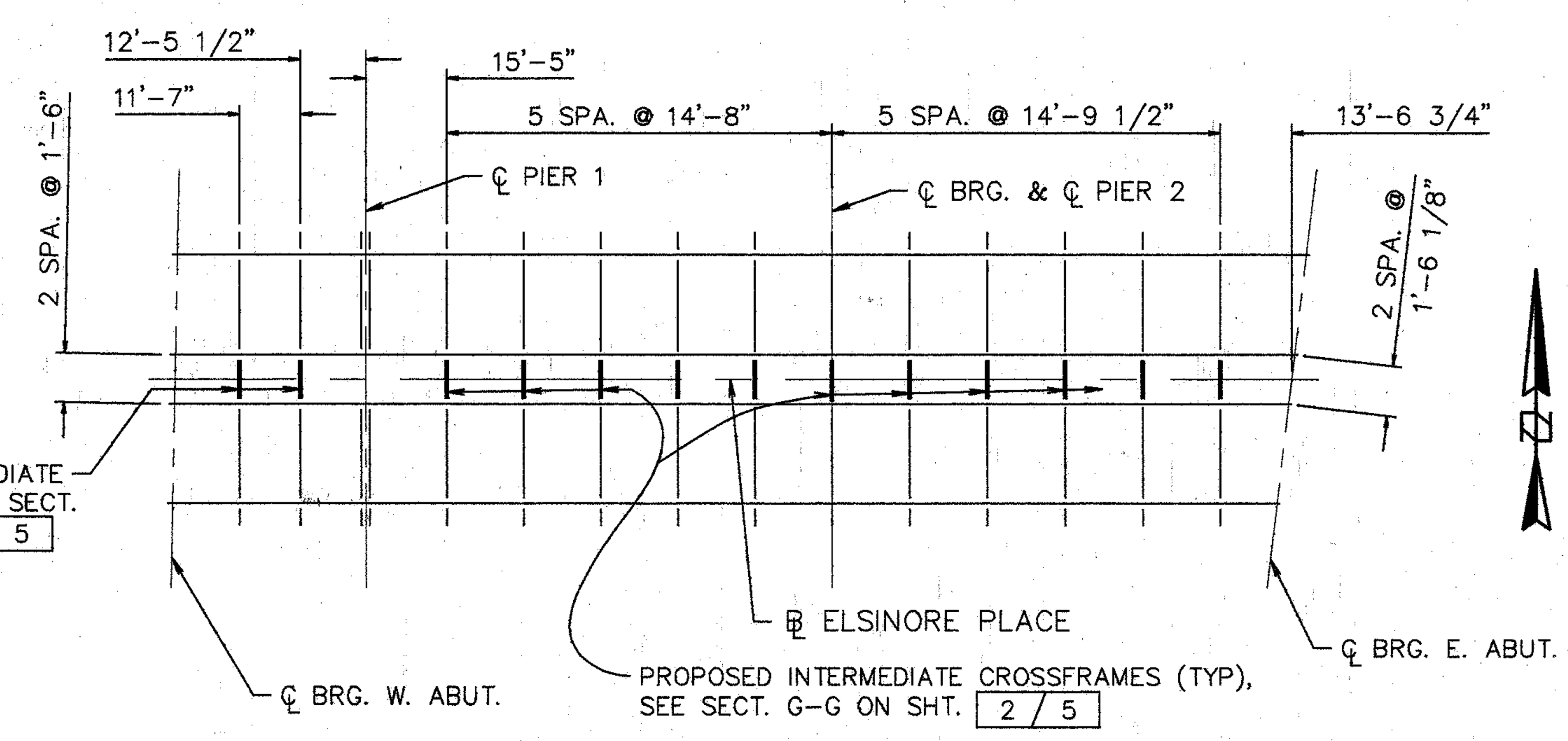


PLAN

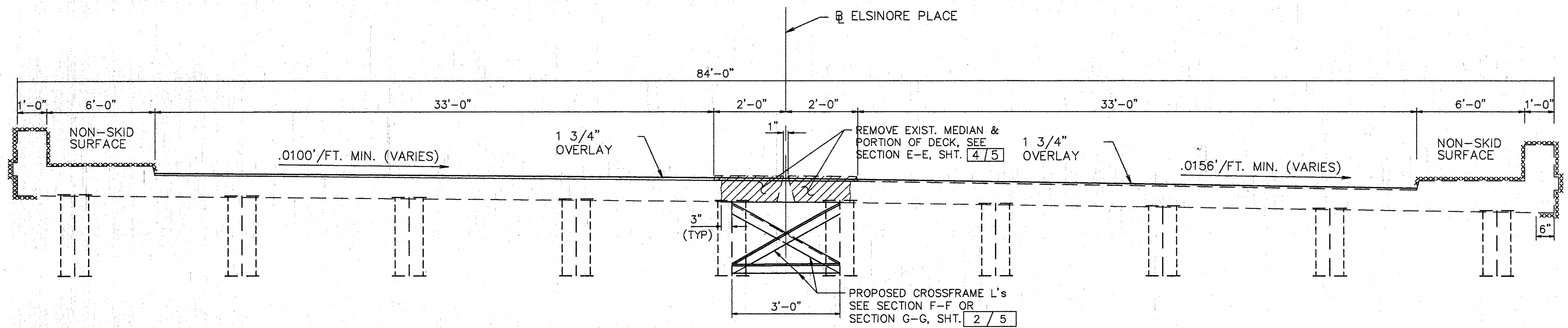
NOTES:

1. SEAL CURBS, SIDEWALKS, PARAPETS, BACKWALLS, PIERS. SEAL PIER 1 COMPLETELY WITH EPOXY SEALER, EXCEPT ¼ OF THE COLUMN CIRCUMFERENCE AWAY FROM THE DIRECTION OF TRAFFIC. SEAL PIER 2 COMPLETELY EXCEPT FOR THE TOP OF PIER CAP.
2. MODIFY DRAINAGE PIPING, SEE DETAILS SHT. 5/5

FIXED OR SLIDING ℗ SIZE	JACK CAPACITY REQ'D. (MIN.)
E100	75 TON
E150	125 TON
F150	125 TON



FRAMING PLAN



××× SURFACES TO BE SEALED UNDER ITEM SPECIAL-SEALING OF CONCRETE SURFACES.

TYP. BRIDGE SECTION

EXISTING STRUCTURE

TYPE: SIMPLE SPAN STEEL BEAM (SPAN 1) AND CONT. PLATE GIRDER(SPANS 2 & 3) W/REINF. CONCRETE DECK AND SUBSTRUCTURE
SPANS: 36'-4", 88'-9", 87'-6 1/4" C-C BRG'S (MEASURED ALONG BASELINE)
ROADWAY: 33'-0" F-F CURBS W/ 4'-0" MEDIAN AND TWO 6'-0" SIDEWALKS
SKEW: VARIES, SEE PLAN.
LOADING FREQUENCY: C.F.=2000 (57)
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: TANGENT
SUPERELEVATION: VARIES

WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660

1/5

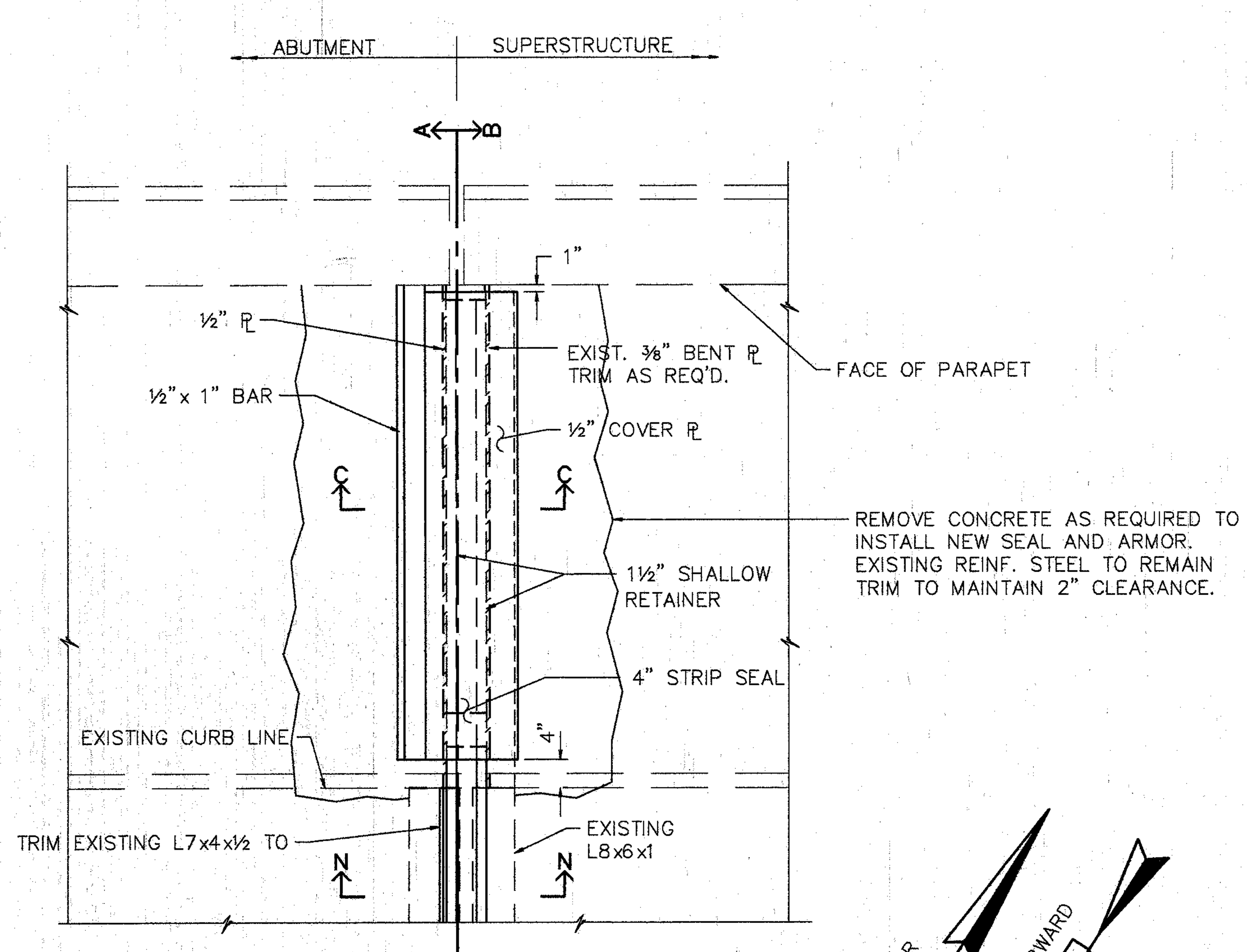
GENERAL PLAN

BRIDGE NO. HAM-71-0221 ELSINORE AVE. OVER INTERSTATE ROUTE 71

HAMILTON COUNTY

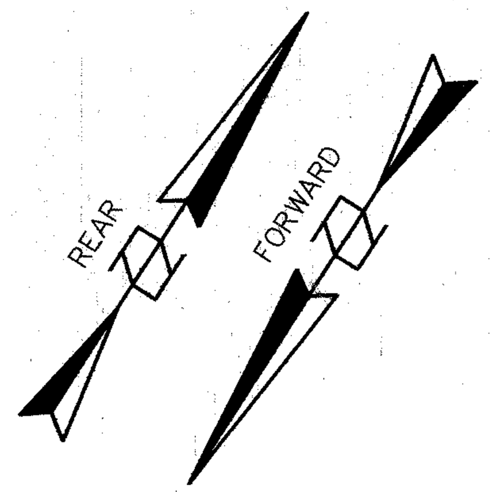
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	R.M.R.		M.A.A.	D.E.M.	11/11/94	

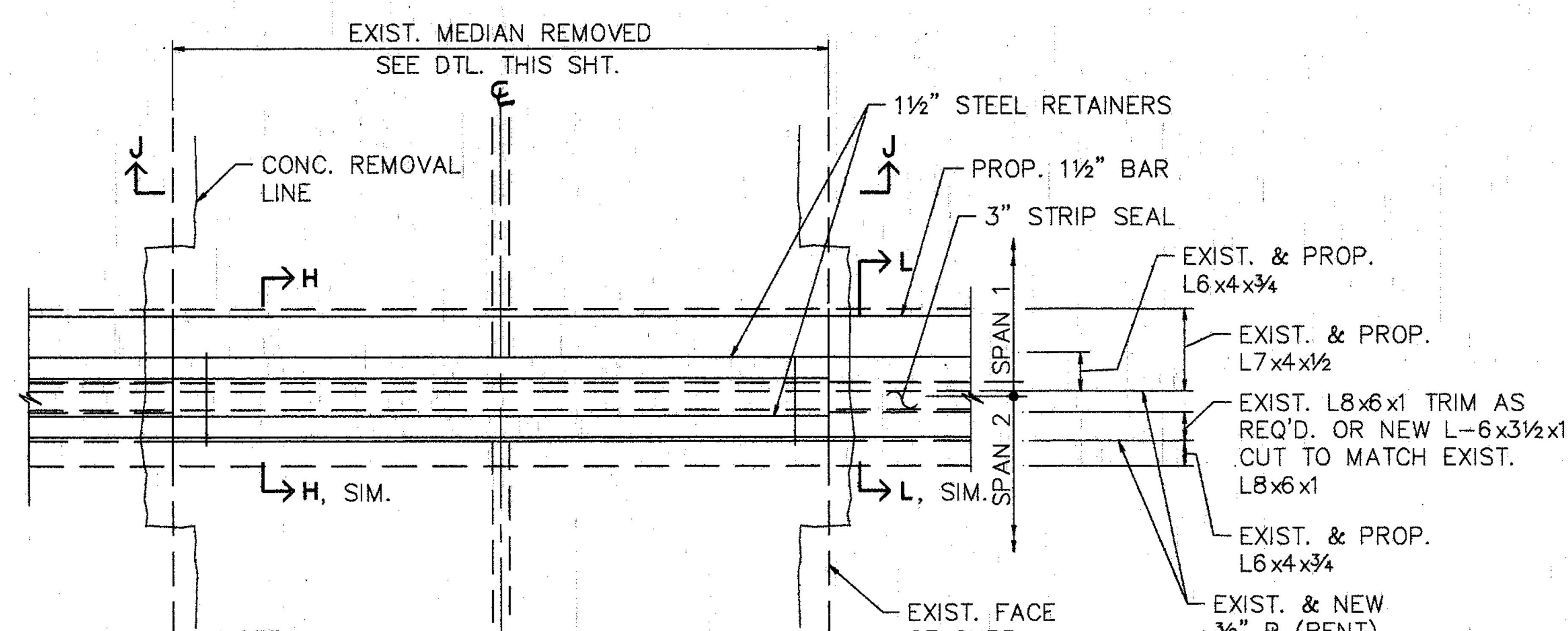
Last Plot: JUN. 20, 1991 @ 5:10 PM G:\STR\16596-03\ASHLAND\71-0221 Last Revision By: RACH MAY 18, 1994 @ 8:21 AM



PART PLAN SIDEWALK @ REAR ABUTMENT

(LEFT SIDEWALK SHOWN, RIGHT SIDEWALK OPPOSITE HAND)
(SKEW = 1°07'09" LEFT FORWARD)

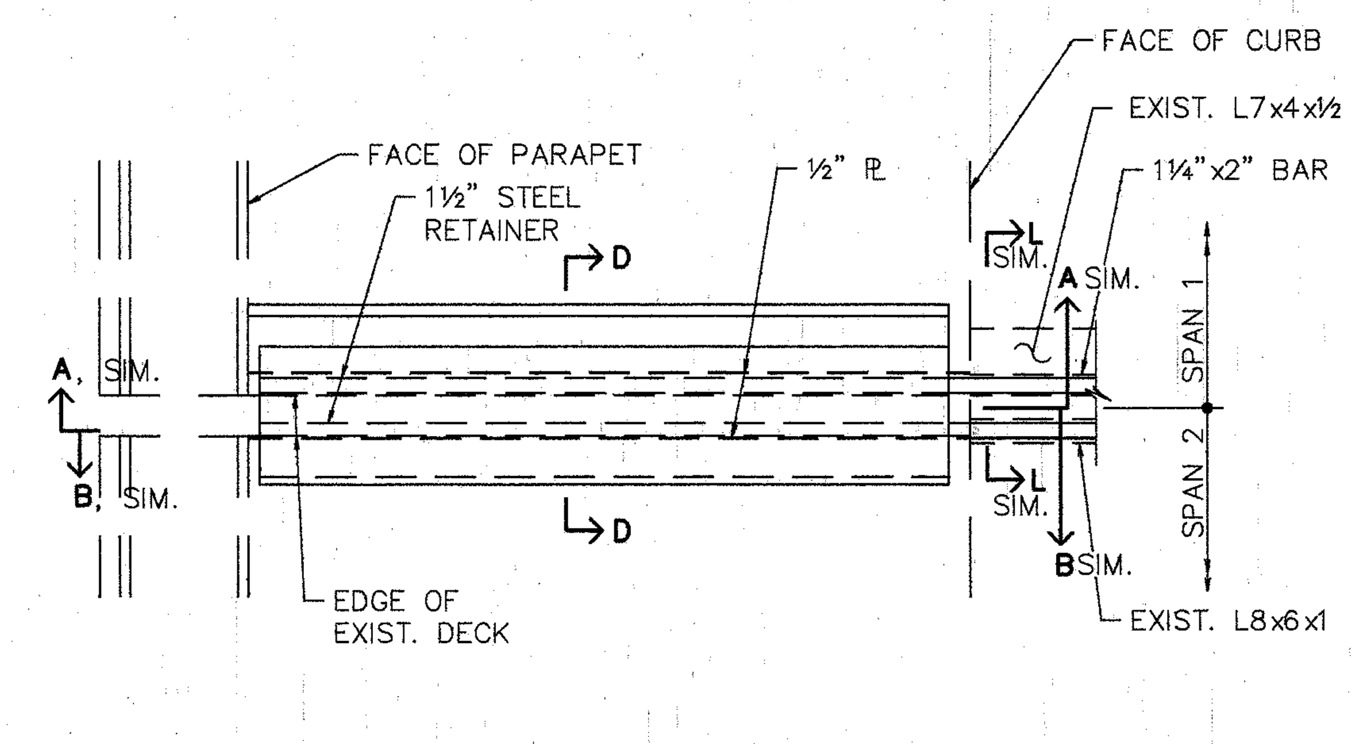




NOTE:
FOR DIMS., ETC. SEE PART. PLAN AT ABUTMENTS.

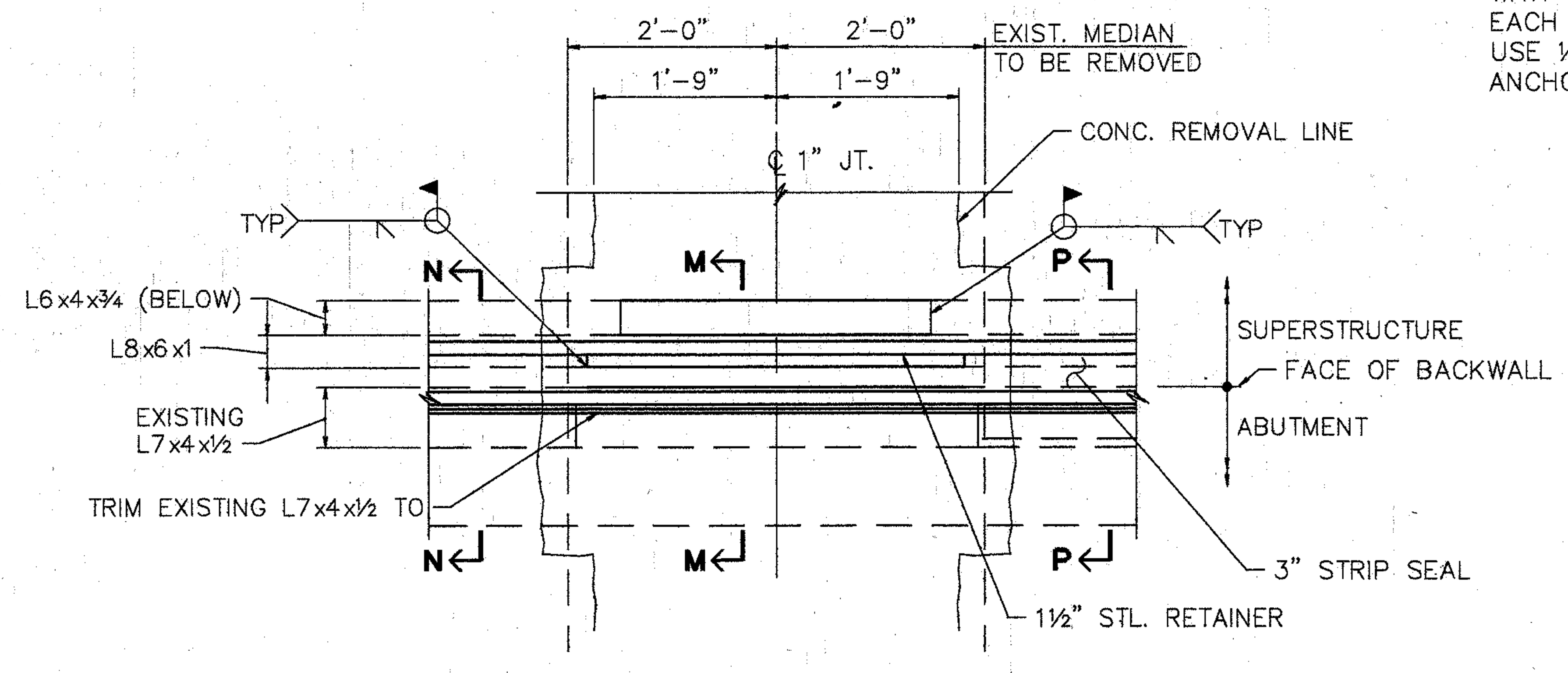
PART. PLAN MEDIAN @ PIER 1

(SKEW = NONE)



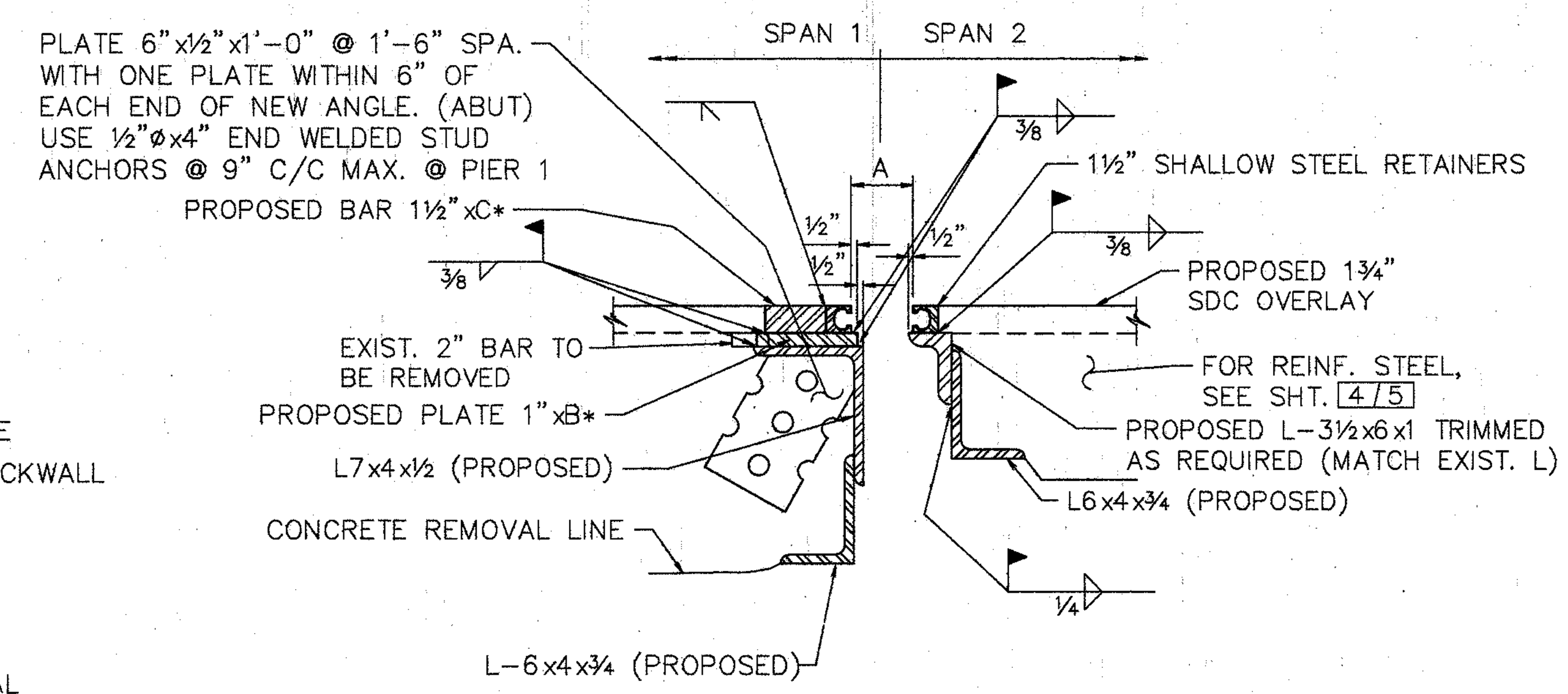
PART. PLAN SIDEWALK @ PIER 1

(RIGHT SIDEWALK SHOWN, LEFT SIDEWALK OPPOSITE HAND) (SKEW = NONE)



PART. PLAN MEDIAN @ FWD. & REAR ABUTMENTS

SKEW = 1°07'09" LEFT FORWARD~REAR ABUT.
SKEW = 6°43'30" LEFT FORWARD~FORWARD ABUT.



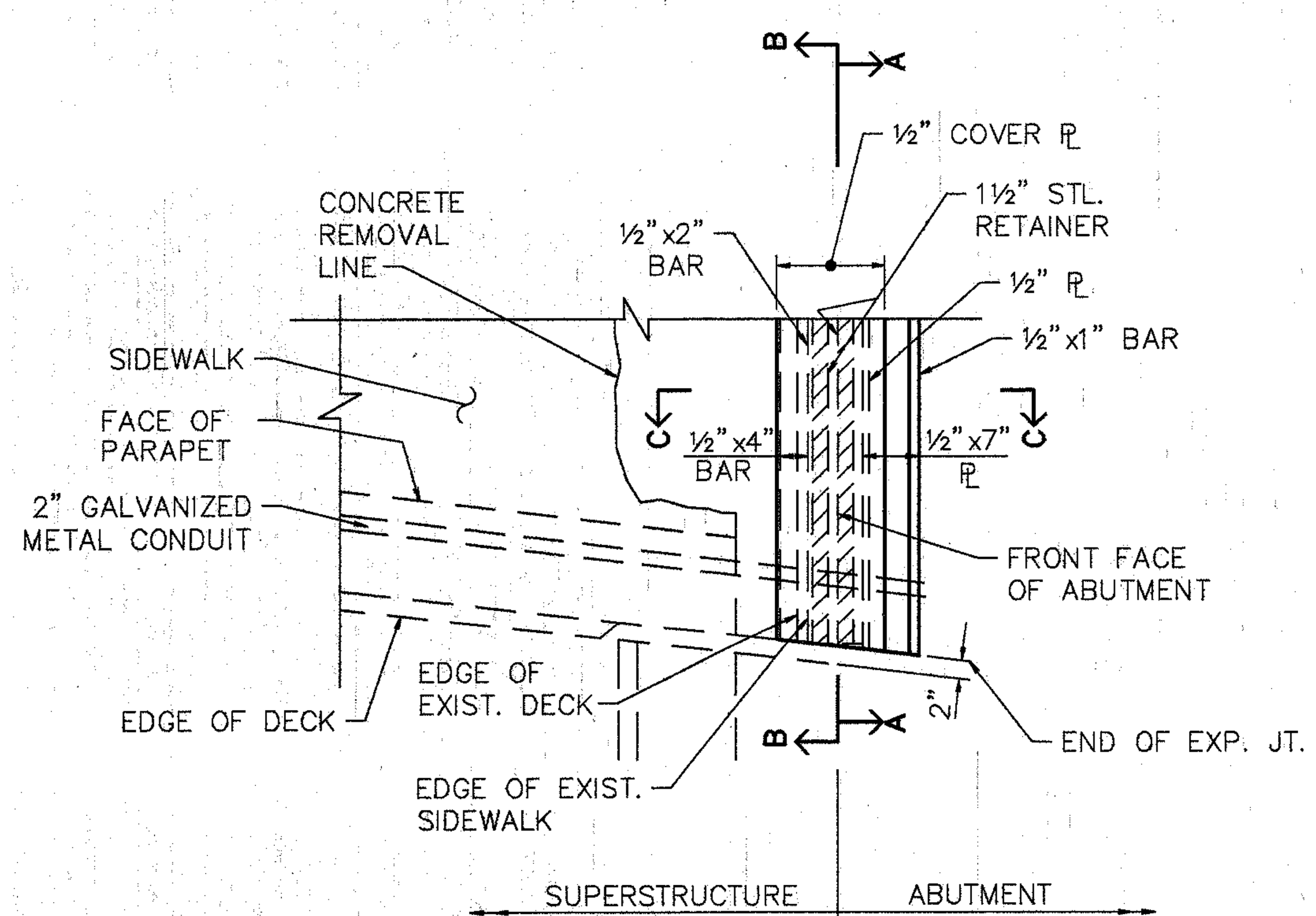
B* = ANGLE LEG MINUS 1"
C* = B* MINUS WIDTH OF RETAINER MINUS 1"

SECTION H-H

FOR DTLS NOT SHOWN SEE STD. DWG. SD-1-69.

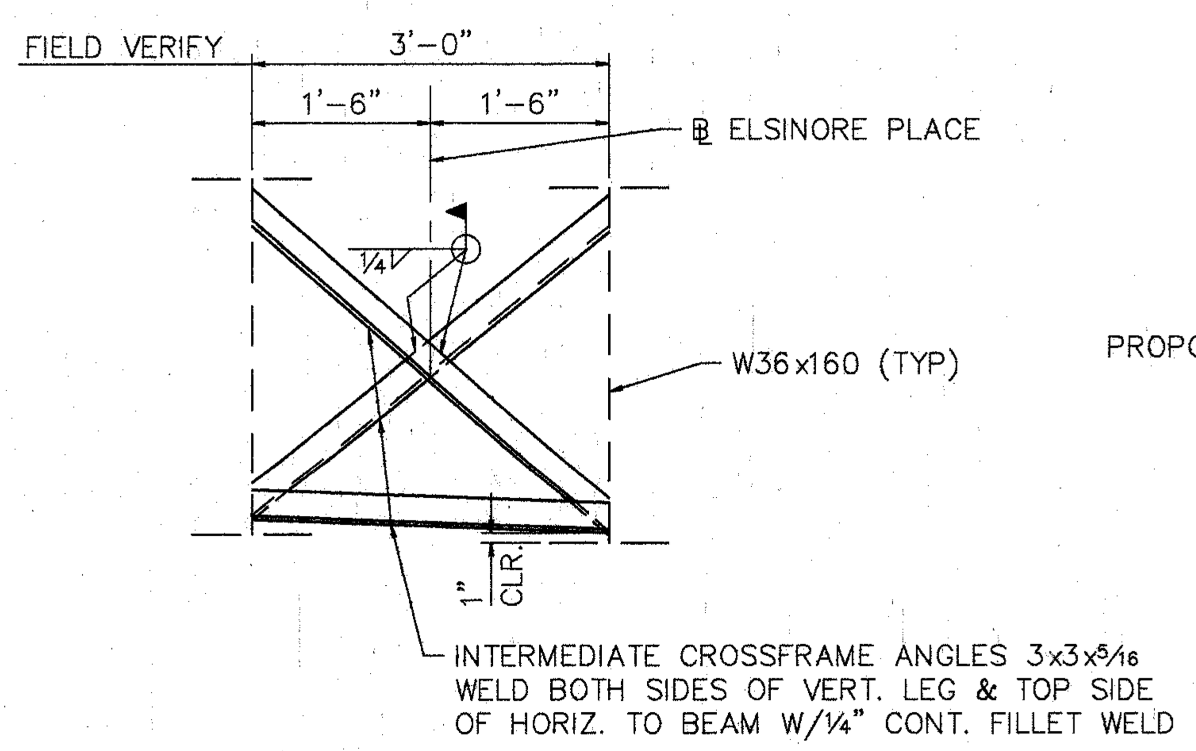
NOTES:

- STRUCTURAL STEEL FOR PROPOSED INTERMEDIATE CROSSFRAMES, SHALL BE PAID FOR AS ITEM 513, STRUCTURAL STEEL FOR REHABILITATION. STRUCTURAL STEEL UNDER THIS ITEM WILL NOT REQUIRE SHOP DRAWINGS PRIOR TO FABRICATION. THE CONTRACTOR SHALL MAKE NECESSARY MEASUREMENTS AND PREPARE SKETCHES, DRAWINGS, TABLES, ETC. THE ENGINEER SHALL HAVE THE AUTHORITY AND RESPONSIBILITY FOR ENSURING THAT THE FABRICATED STEEL IS ACCEPTABLE. TECHNICAL ASSISTANCE WILL BE PROVIDED ON REQUEST BY THE BUREAU OF BRIDGES. MILL TEST REPORTS AND SHIPPING DOCUMENTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL TO ENSURE THAT THE DRAWINGS DEPICT THE STEEL AS ACTUALLY INCORPORATED INTO THE WORK. THE ENGINEER WILL THEN SEND ONE APPROVED SET TO THE BUREAU OF BRIDGES FOR INFORMATION. PAY WEIGHTS SHALL BE COMPUTED IN COMPLIANCE WITH 513 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS AND SUBMITTED TO THE ENGINEER FOR HIS REVIEW AND APPROVAL. THE FABRICATOR SHALL FURNISH A 35 MILLIMETER MICROFILM COPY OF EACH SHOP DRAWING, WHICH SHALL BE MOUNTED ON AN APERTURE CARD AS SPECIFIED IN 501.05.
- NEW STEEL SHALL BE PAINTED ACCORDING TO THE PROPOSAL NOTE ENTITLED "FIELD PAINTING OF NEW STEEL, SYSTEM IZEU". COST FOR PAINTING SHALL BE INCLUDED WITH ITEM SPECIAL – PAINTING OF NEW STEEL, SYSTEM IZEU, FOR PAYMENT.
- FOR DETAILS NOT SHOWN SEE SHEET 3&4/5



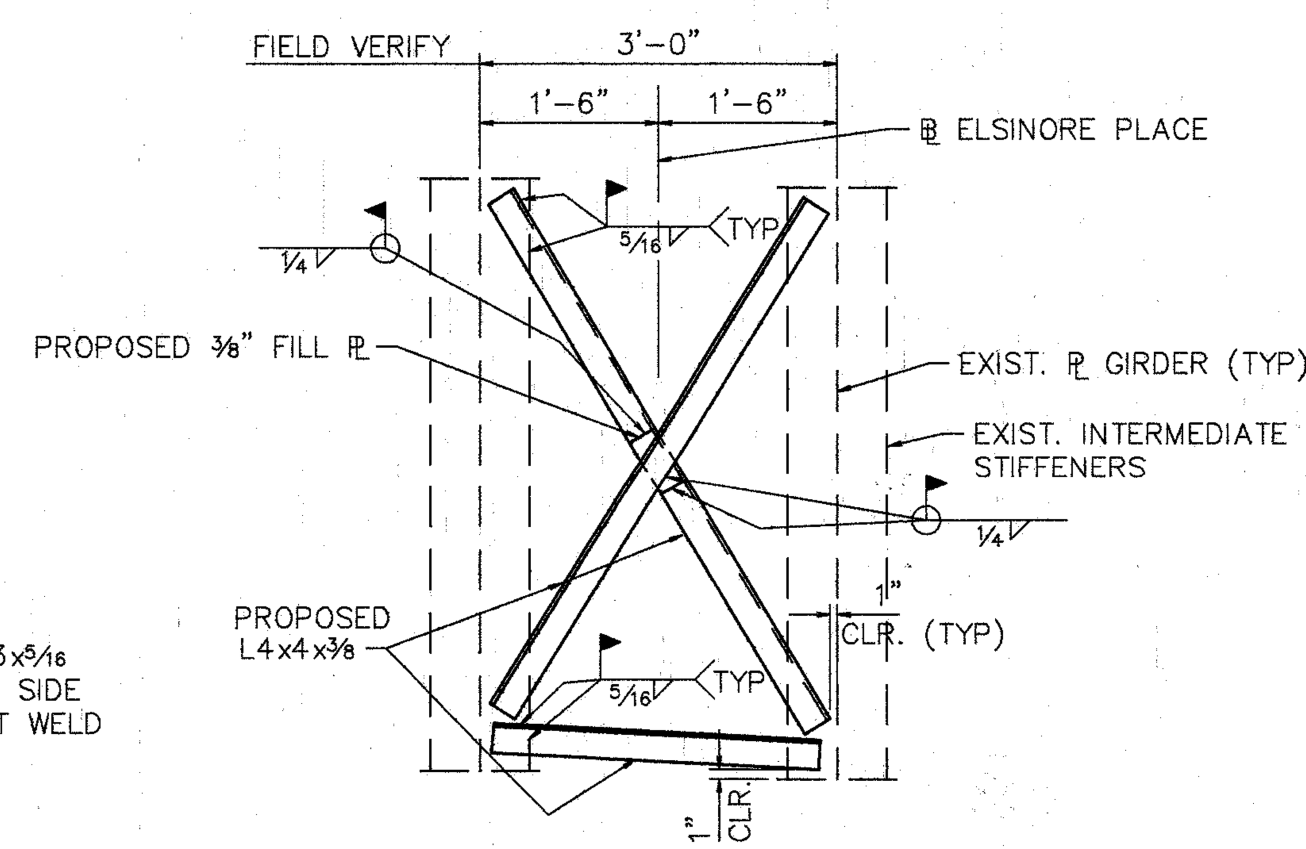
PART PLAN SIDEWALK @ FORWARD ABUTMENT

(RIGHT SIDEWALK SHOWN, LEFT SIDEWALK OPPOSITE HAND (NO CONDUIT))
(SKEW = 6°43'30" LEFT FORWARD, SOUTHEAST CORNER VARIES)



TYPICAL SPAN 1

SECTION F-F



TYPICAL SPAN 2 & 3

SECTION G-G

WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660

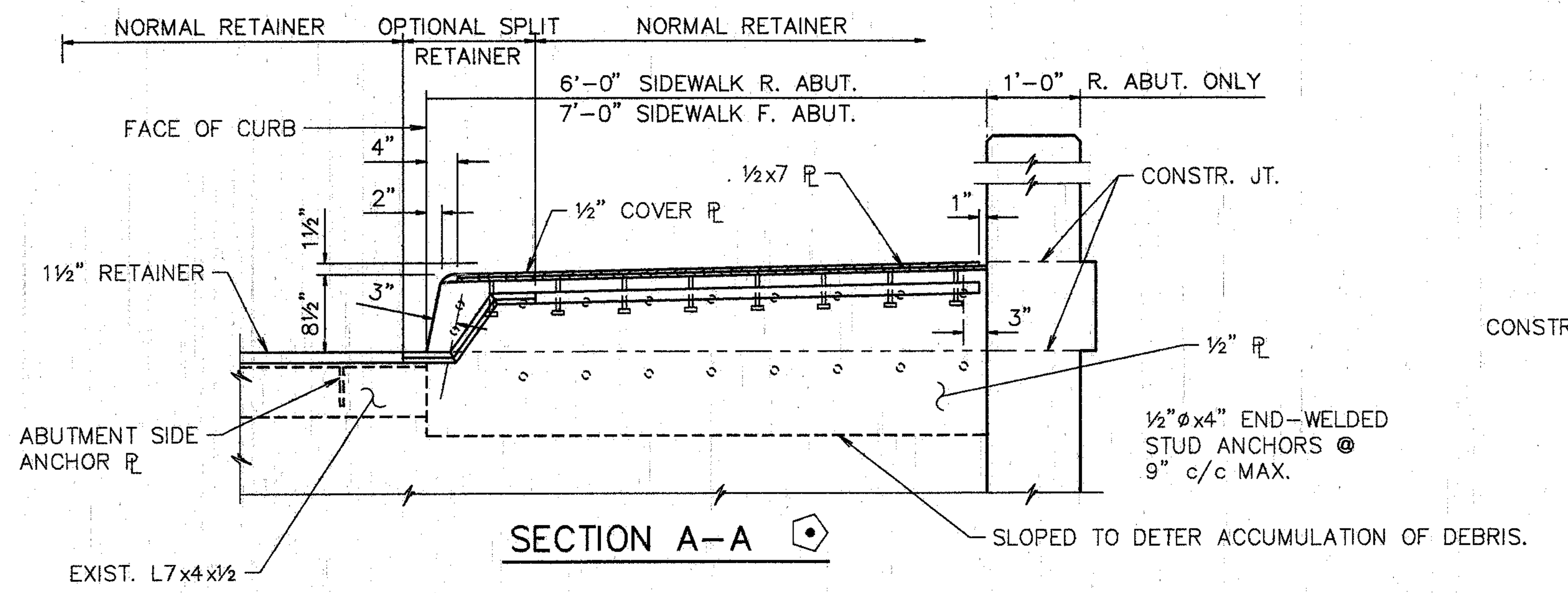
2/5

EXPANSION JOINT DETAILS

BRIDGE NO. HAM-71-0221 ELSINORE AVE.
OVER INTERSTATE ROUTE 71

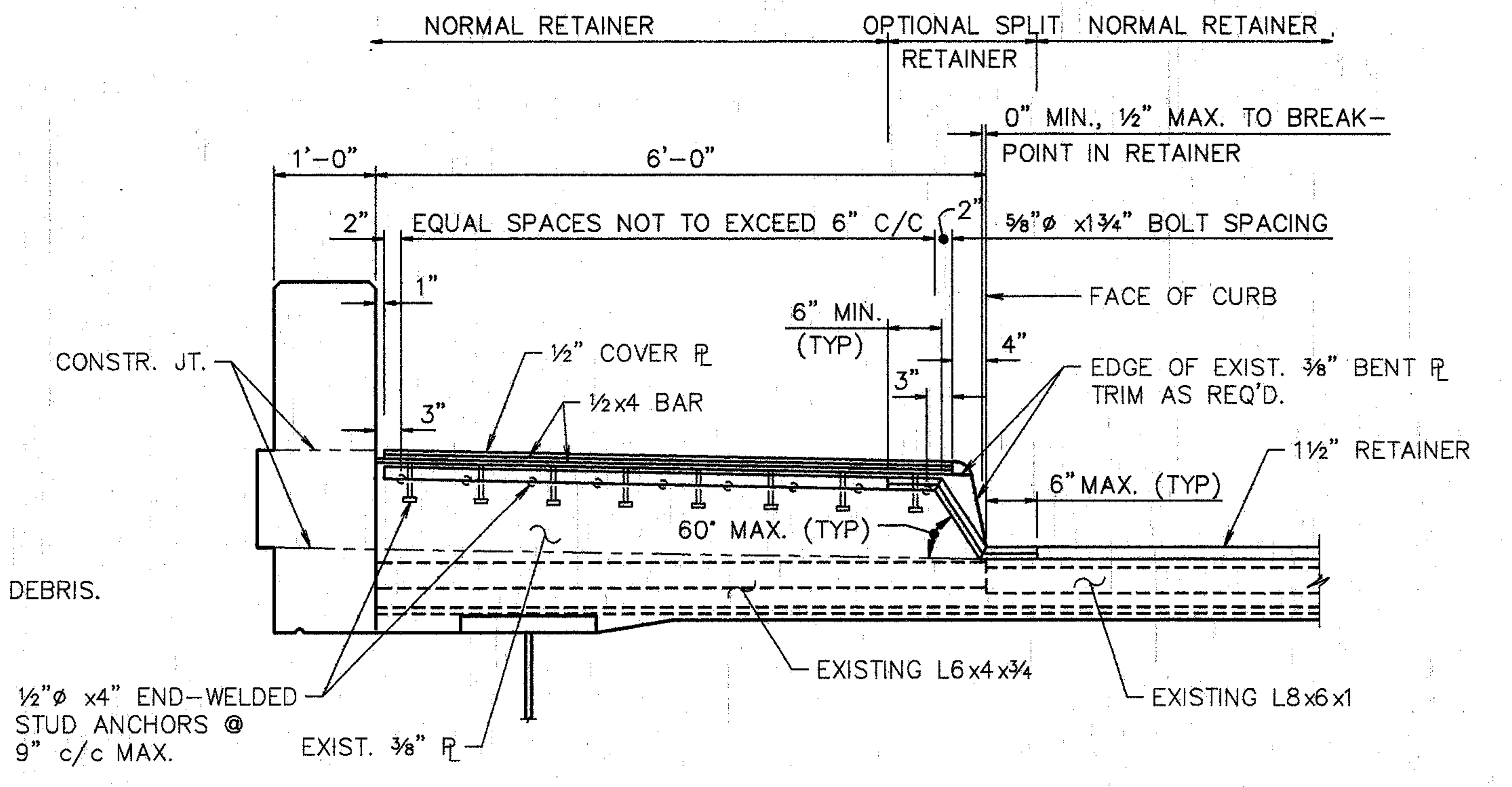
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	R.M.R.		M.A.A.	D.E.M.	1/11/94	



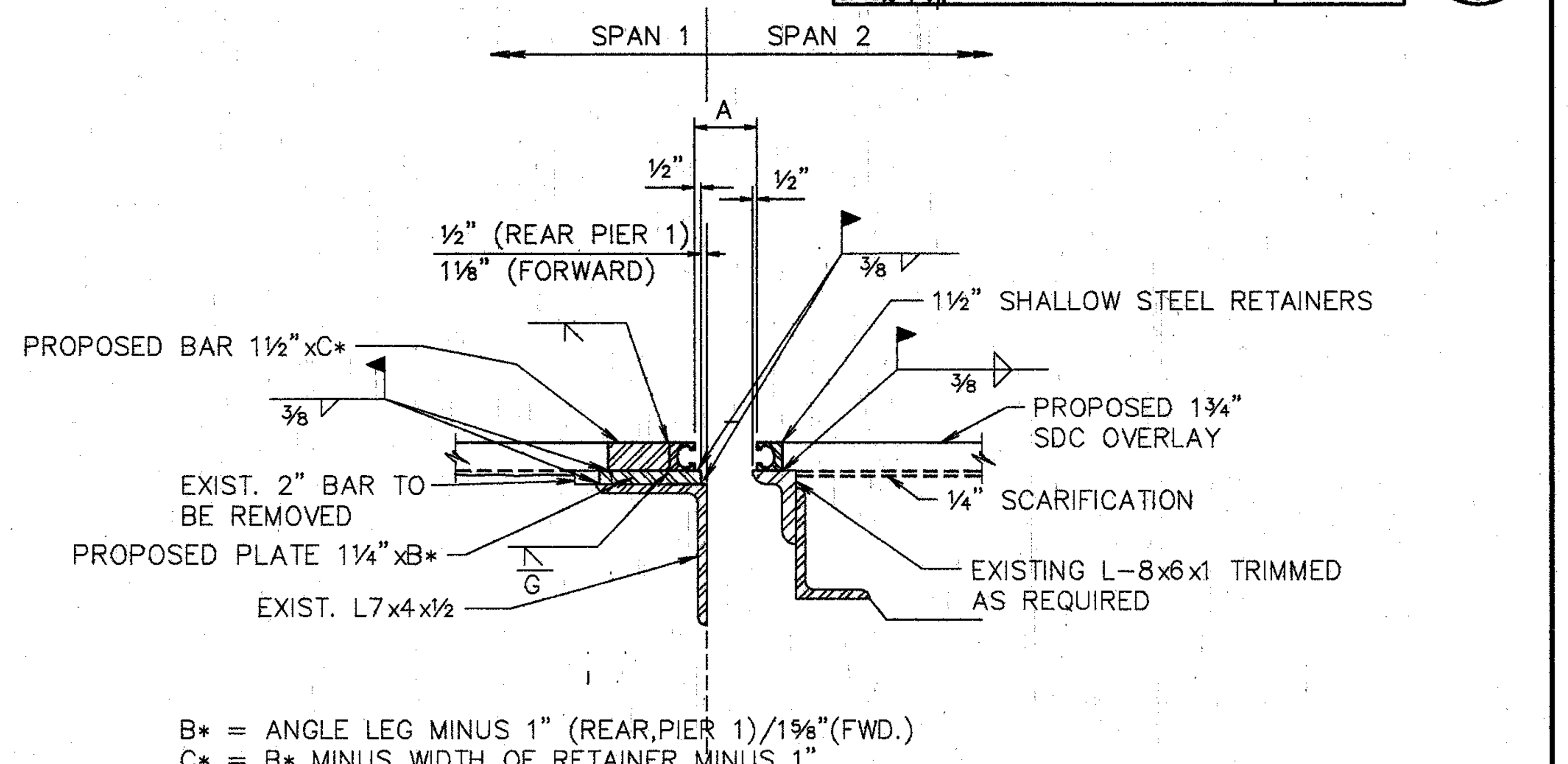
SECTION A-A

– SIDEWALK AND PARAPET JOINT ARMOR ANCHORS:
IN LIEU OF THE ½"ø END-WELDED STUDS SHOWN, ALTERNATE METHODS OF ANCHORING THE ½" PLATES MAY BE USED, SUBJECT TO APPROVAL BY THE DIRECTOR.



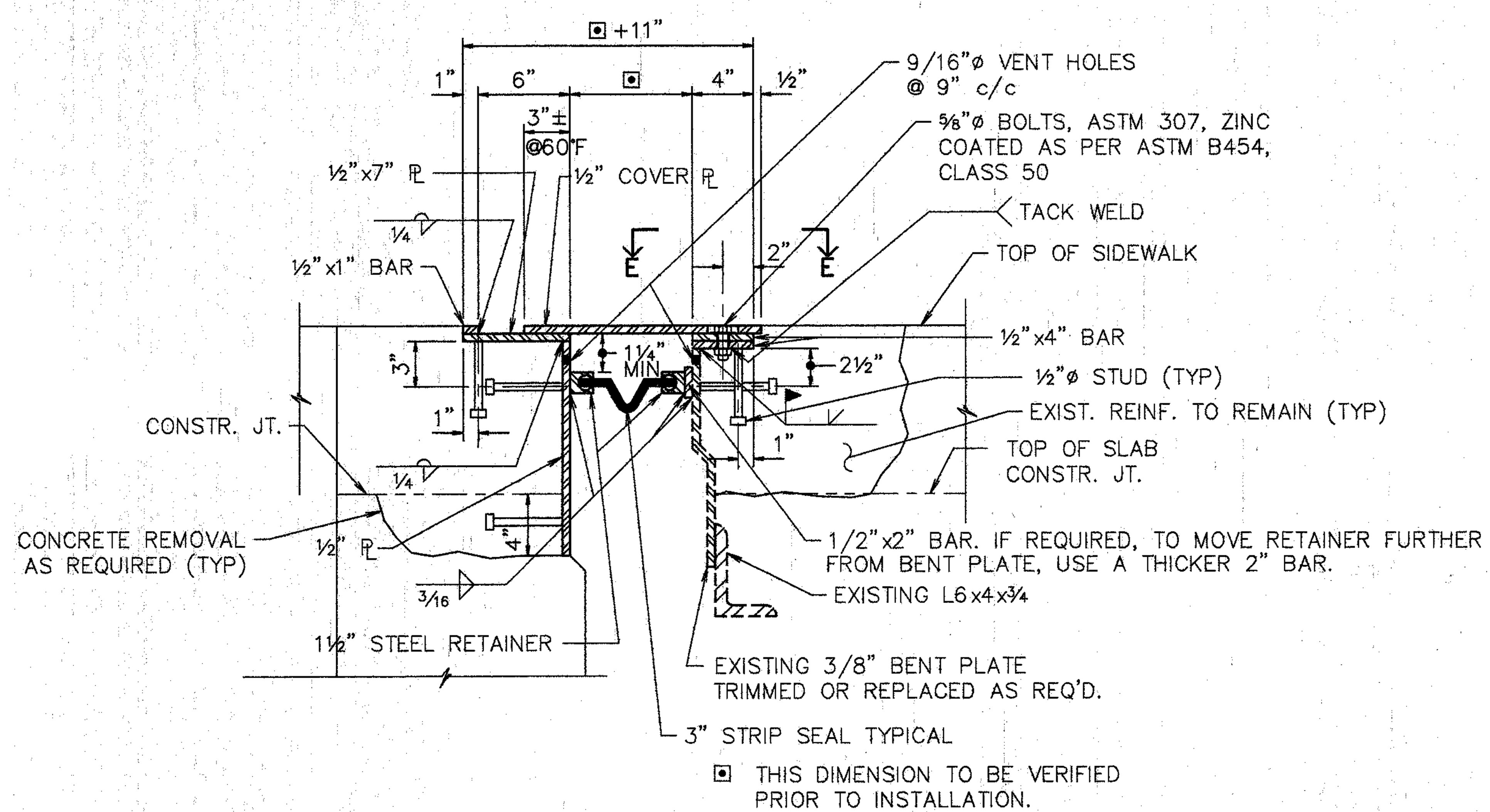
SECTION B-B

NOTE: REMOVE ⅜" BENT FORM ℙ LEAVE L6x4x¾ INTACT



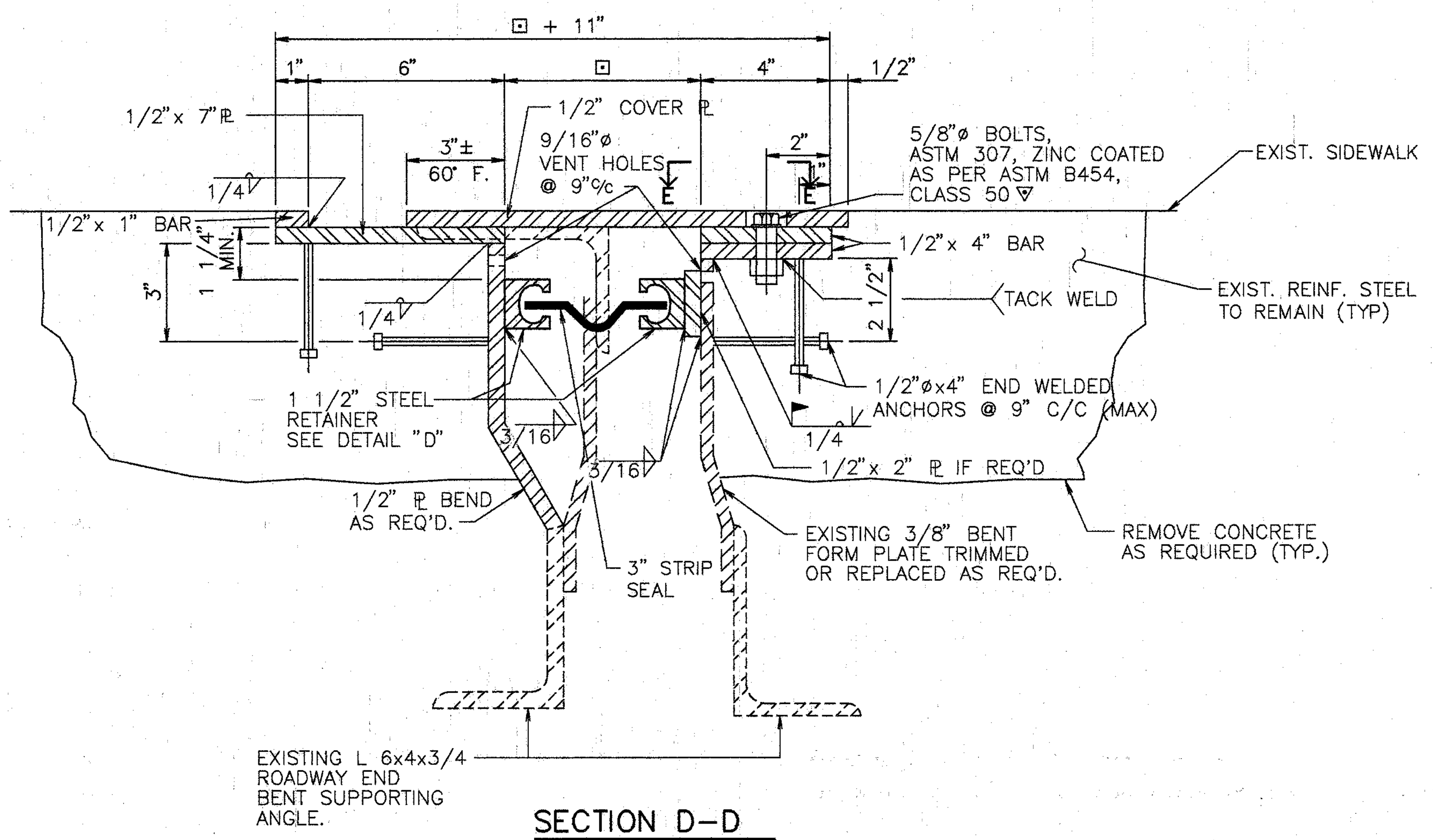
SECTION L-L

FOR DTLS NOT SHOWN SEE STD. DWG. SD-1-69.



THIS DIMENSION TO BE VERIFIED PRIOR TO INSTALLATION.

SECTION C-C

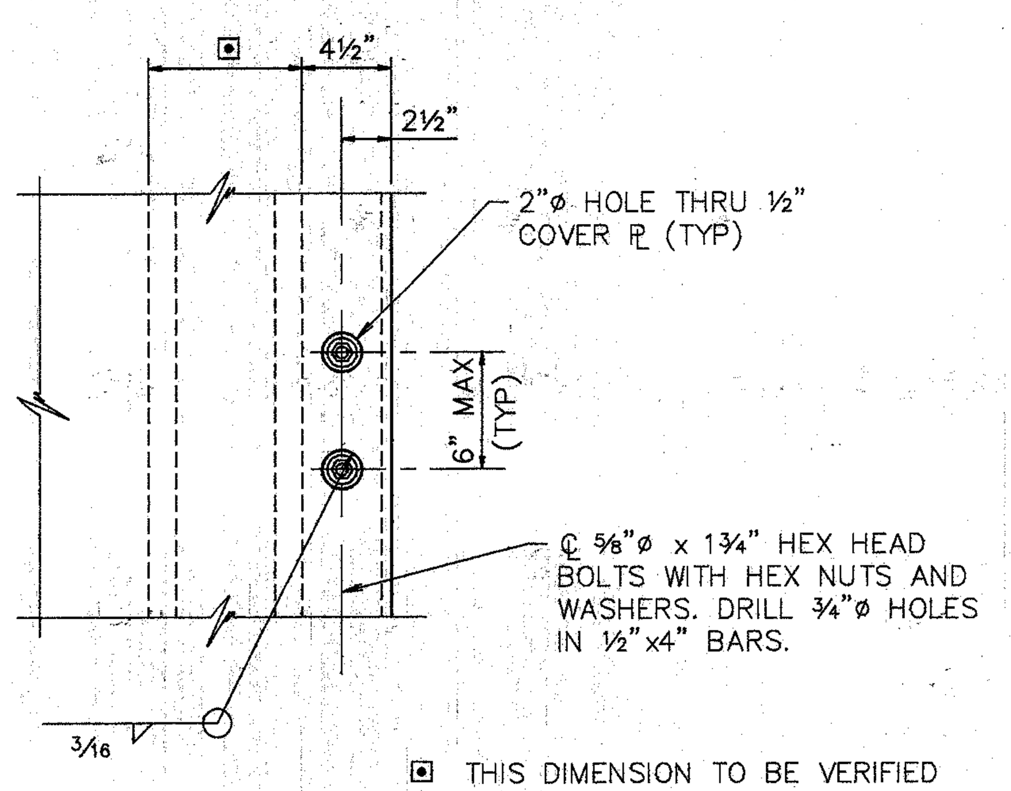


SECTION D-D

NOTES:

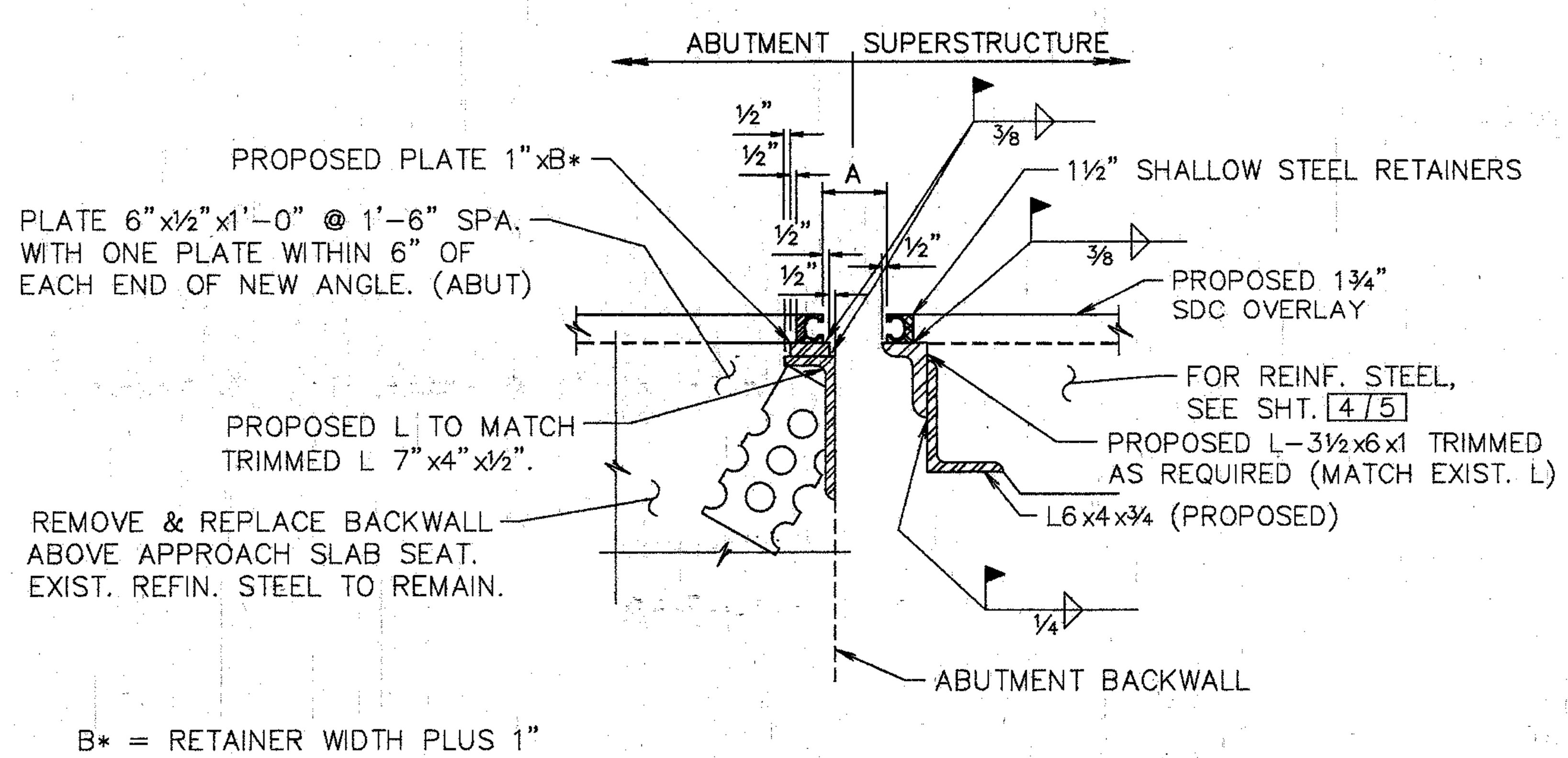
1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO MODIFYING EXPANSION JOINT.
2. THE PRICE FOR ITEM 516 – 'STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS,' SHALL INCLUDE ALL LABOR , MATERIALS, EQUIPMENT,AND ANY OTHER INCIDENTAL ITEMS, AS DETAILED. (REMOVAL OF CURB OR PARAPET AS SHOWN SHALL BE INCLUDED UNDER ITEM 202 – 'PORTIONS OF STRUCTURES REMOVED.')
3. FOR DETAILS NOT SHOWN REFER TO DRAWING EXJ-4-87 SHEETS 3 AND 4.
4. STRIP SEAL TO BE INSTALLED IN ONE CONTINUOUS PIECE (NO OPEN JOINTS).
5. PROVIDE TEMPORARY SUPPORT FOR ABUTMENT END DAM DURING CONSTRUCTION. REMOVE TEMPORARY SUPPORT AS SOON AS CONCRETE HAS SET, PREFERABLY WITHIN TWO HOURS AFTER PLACING TO AVOID DAMAGE DUE TO EXPANSION AND CONTRACTION OF SUPERSTRUCTURE.

TEMPERATURE	DIM. 'A'		
	FORWARD	REAR	PIER 1
40° F	2 1/2"	2 3/4"	2 1/2"
50° F	2 1/2"	2 3/4"	2 1/2"
60° F	2 3/8"	2 3/4"	2 3/8"
70° F	2 3/8"	2 3/4"	2 3/8"
80° F	2 1/4"	2 3/4"	2 1/4"
90° F	2 1/4"	2 5/8"	2 1/4"



THIS DIMENSION TO BE VERIFIED PRIOR TO INSTALLATION.

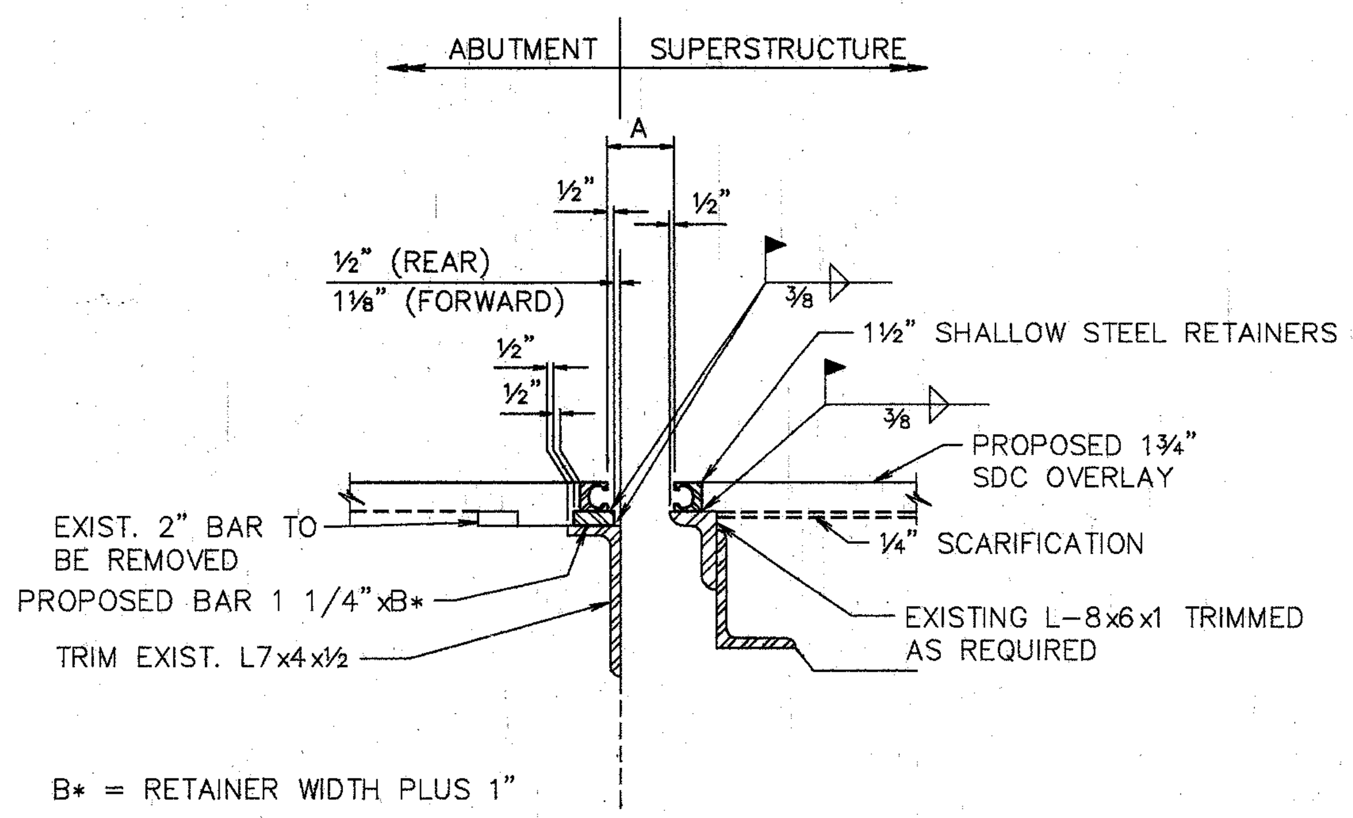
SECTION E-E



B* = RETAINER WIDTH PLUS 1"

SECTION M-M

FOR DTLS NOT SHOWN SEE STD. DWG. SD-1-69.



B* = RETAINER WIDTH PLUS 1"

SECTION N-N

FOR DTLS NOT SHOWN SEE STD. DWG. SD-1-69.

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MISCELLANEOUS DETAILS

BRIDGE NO. HAM-71-0221 ELSINORE AVE.
OVER INTERSTATE ROUTE 71

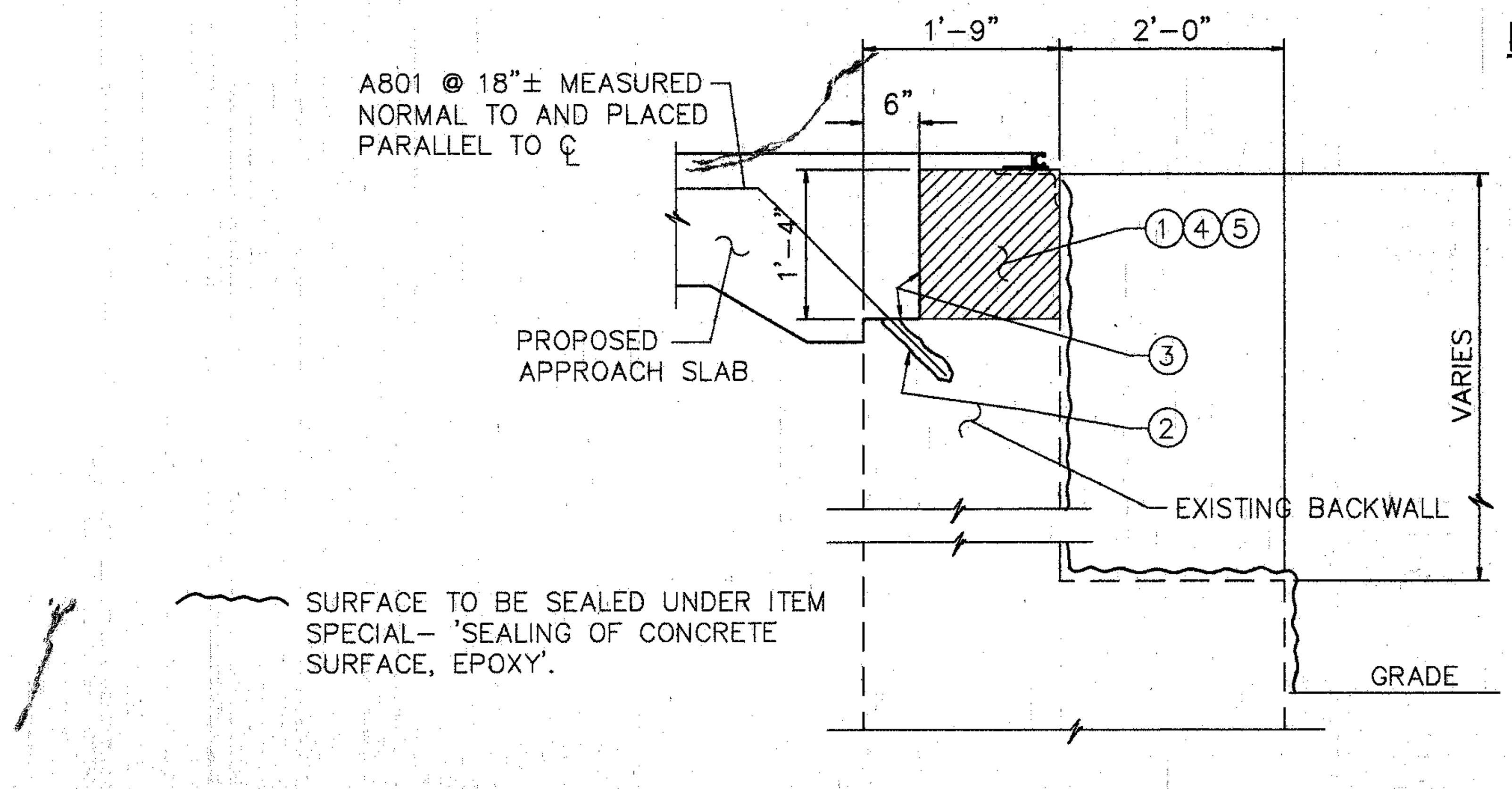
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	R.M.R.		M.A.A.	D.E.M. 1/11/94	

Last Print: JUN. 20, 1991 @ 5:05 PM Last Revision By: RACH MAR. 18, 1994 @ 8:45 AM

CALC BY	LATM	DATE	9-23-94
CHK'D BY	DEM	DATE	10-4-94

HAM-71-1.30/9.00 — OHIO F.H.W.A. REGION 5 — 324/401

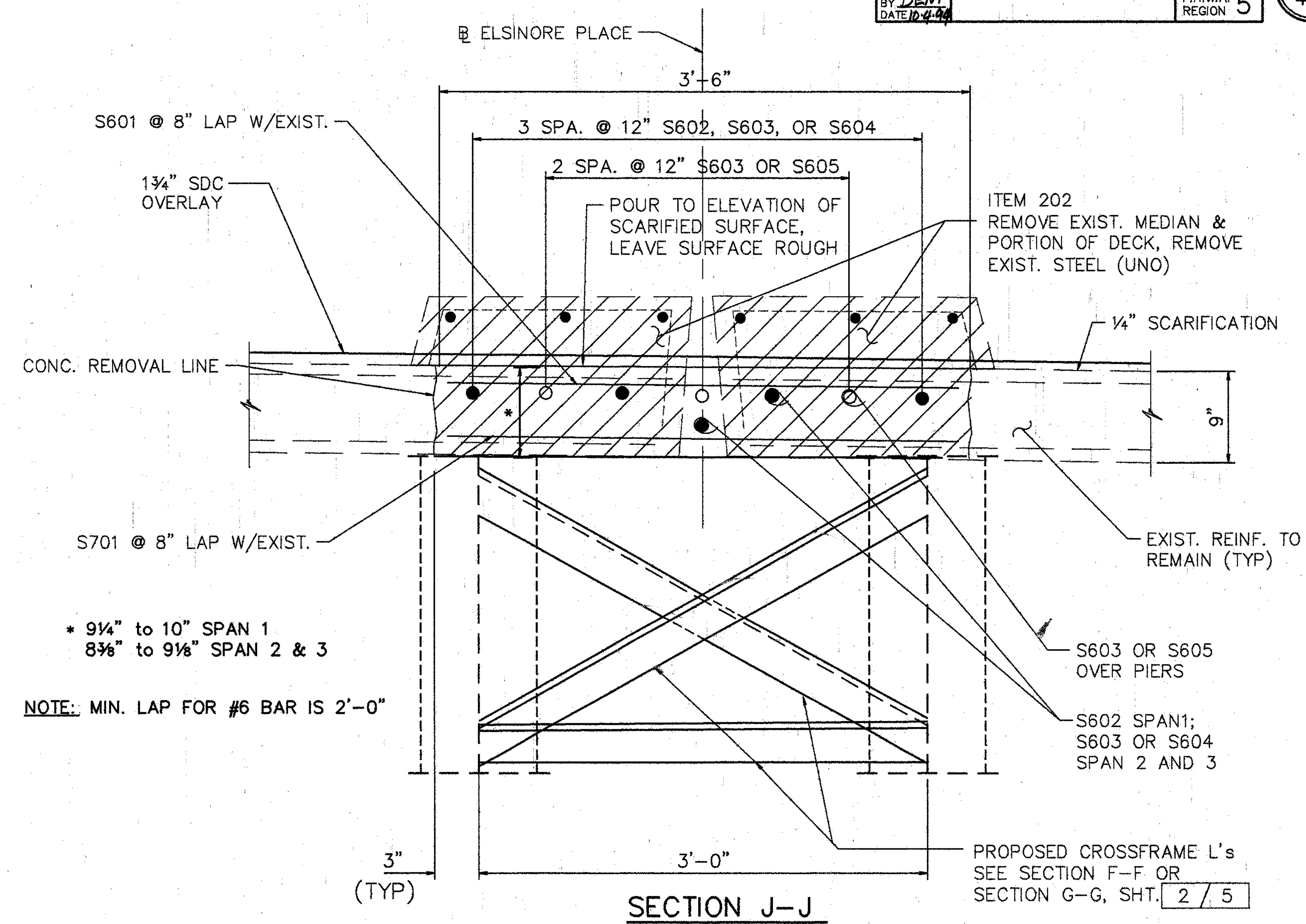


SECTION P-P

NOTES FOR SECTION P-P

1. EXISTING REINFORCING STEEL TO REMAIN ~ REINFORCING STEEL DAMAGED TO BE REPLACED AT CONTRACTORS EXPENSE.
2. 1' MIN. EMBEDMENT (SEE DOWEL HOLE GENERAL NOTE) ITEM 510.
3. TYPE 'A' WATERPROOFING (PAYMENT INCLUDED IN THE PRICE BID FOR APPROACH SLAB).
4. CLASS 'C' CONCRETE, ABUTMENT RECONSTRUCTION.
5. PROVIDE CONTRACTION AND EXPANSION JOINTS TO MATCH THOSE IN EXISTING BACKWALL AND PROVIDE CONSTRUCTION JOINTS AS REQUIRED TO MAINTAIN TRAFFIC. THE PAYMENT TO BE INCLUDED IN PRICE BID FOR ITEM 511 CLASS C CONCRETE RECONSTRUCTION.

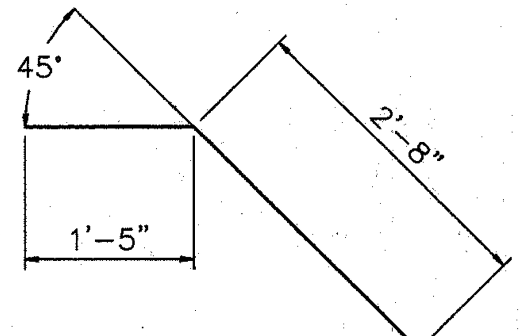
EXISTING CONCRETE TO BE REMOVED INCLUDE IN ITEM 202 FOR PAYMENT.



SECTION J-J

REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
S601	STR.	320	3'-4"	1608
S602	STR.	10	19'-0"	285
S603	STR.	33	30'-0"	1487
S604	STR.	5	7'-0"	53
S605	STR.	3	14-0"	63
S701	STR.	320	3'-4"	2178
A801	BNT.	97	4'-0"	1036
REPLACEMENT STEEL				500
			TOTAL	7210



A801

⁎ SEE PROPOSAL NOTE

ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	LUMP	PORTIONS OF STRUCTURES REMOVED
509	15830	7210	POUND	EPOXY COATED REINFORCING STEEL, GRADE 60
510	12201	97	LIN FT	DOWEL HOLES, AS PER PLAN
511	34400	23	CU YD	CLASS 'S' CONCRETE, SUPERSTRUCTURE (RECONSTRUCTION)
511	45700	10	CU YD	CLASS 'C' CONCRETE, ABUTMENT (RECONSTRUCTION)
SPECIAL	51267500	820	SQ YD	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	651	SQ YD	SEALING OF CONCRETE SURFACE (EPOXY) *
513	16000	1600	POUND	STRUCTURAL STEEL FOR REHABILITATION
513	21000	27	EACH	TRIMMING OF BEAM END
514	00610	1600	POUND	FIELD PAINTING OF NEW STEEL, SYSTEM IZEU *
514	27704	LUMP	L.S.	FIELD PAINTING, MISC.: EXISTING STEEL, EEU ⁎
516	10000	24	LIN FT	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL (705.11)
516	11210	247	LIN FT	STRUCTURAL EXP. JT., INCLUDING ELASTOMERIC STRIP SEAL
513	15501	100	LBS.	STRUCTURAL STEEL (MISC. AND CASTINGS), AS PER PLAN
518	12800	3	EACH	SCUPPER MODIFICATION
518	63300	LUMP SUM	LUMP	STRUCTURE DRAINAGE, MISC: MODIFY DRAINAGE PIPING
SPECIAL	51912600	29	LIN FT	CONCRETE REPAIR BY EPOXY INJECTION
845	40210	1690	SQ YD	LATEX MODIFIED CONCRETE, MISC. OVERLAY (1¾" THICK)* ON EXISTING DECK
845	11000	16	CU YD	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)*
845	30000	1	CU YD	FULL DEPTH REPAIR
516	14600	50	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2"x4" SEALER, AS PER PLAN
516	45304	31	EACH	REFURBISH BEARING DEVICE

ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
519	11100	62	S.F.	PATCHING CONCRETE STRUCTURE
516	14600	100	L.F.	SEAL JOINT BETWEEN ABUTMENT AND CONCRETE SLOPE PROTECTION
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
601	21100	4	S.Y.	REPAIR CONCRETE SLOPE PROTECTION

CUT LINE CONSTRUCTION JOINT PREPARATION:
SAW CUT BOUNDARIES OF PROPOSED CONCRETE REOVALS 1" DEEP. REMOVE CONCRETE TO A ROUGH SURFACE. WHERE PRACTICABLE, AT LEAST 2'-0" LENGTH OF PROTRUDING REINFORCING STEEL SHALL BE LEFT IN PLACE. INSTALL DOWEL BARS AS SPECIFIED. PRIOR TO CONCRETE PLACEMENT, ABRASIVELY CLEAN JOINT SURFACE AND EXPOSED REINFORCEMENT TO REMOVE LOOSE AND DISINTEGRATED CONCRETE AND LOOSE RUST. THEN, THE JOINT SURFACE AND EXPOSED REINFORCEMENT SHALL BE THOROUGHLY CLEANED OF ALL DIRT, DUST, OR OTHER FOREIGN MATERIAL BY THE USE OF WATER, AIR UNDER PRESSURE. OR OTHER METHODS THAT PRODUCE SATISFACTORY RESULTS. CONCRETE BONDING SURFACES SHALL BE WET WITHOUT FREE WATER AS CONCRETE IS PLACED.

SUPERSTRUCTURE CONCRETE REMOVAL:
REMOVAL SHALL BE BY MEANS OF APPROVED PNEUMATIC HAMMERS EMPLOYING POINTED AND BLUNT CHISEL TOOLS. HYDRAULIC HOE-RAM TYPE HAMMERS WILL NOT BE PERMITTED. THE WEIGHT OF THE HAMMER SHALL NOT BE MORE THAN 35 POUNDS FOR REMOVAL WITHIN 18 INCHES OF PORTIONS TO BE PRESERVED. OUTSIDE THE 18 INCH LIMIT, A HAMMER HEAVIER THAN 35 POUNDS, BUT NOT TO EXCEED 85 POUNDS, MAY BE USED AT THE APPROVAL OF THE ENGINEER. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE.

PROPOSED WORK

1. SCARIFY EXISTING DECK ¼" AND REMOVE DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER.
2. REFURBISH ALL ABUTMENT BEARINGS.
3. REMOVE CONCRETE MEDIAN AND PORTION OF THE DECK. PLACE CROSSFRAME ANGLES AND RECONSTRUCT DECK.
4. PLACE 1¾" THICK LATEX MODIFIED CONCRETE ON DECK.
5. SEAL CURBS, SIDEWALKS, PARAPET, PIERS, AND BACKWALL.
6. SEAL JOINTS AS NOTED. RECONSTRUCT ABUTMENT BACKWALL ABOVE APPROACH SLAB SEAT.
7. SEAL TRANSVERSE EXPANSION JOINTS WITH STRIP SEALS.
8. TRIM BEAM ENDS TO 2" CLEARANCE.
9. REFURBISH DRAINAGE PIPING.
10. ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED ON THE BRIDGE AT ALL TIMES. PEDESTRIAN TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. FOR NOTES SEE MAINTENANCE OF TRAFFIC PLANS.
11. OTHER WORK AS DESCRIBED IN THESE PLANS.

WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660

4/5

QUANTITIES AND GENERAL NOTES

BRIDGE NO. HAM-71-0221 ELSINORE AVE. OVER INTERSTATE ROUTE 71

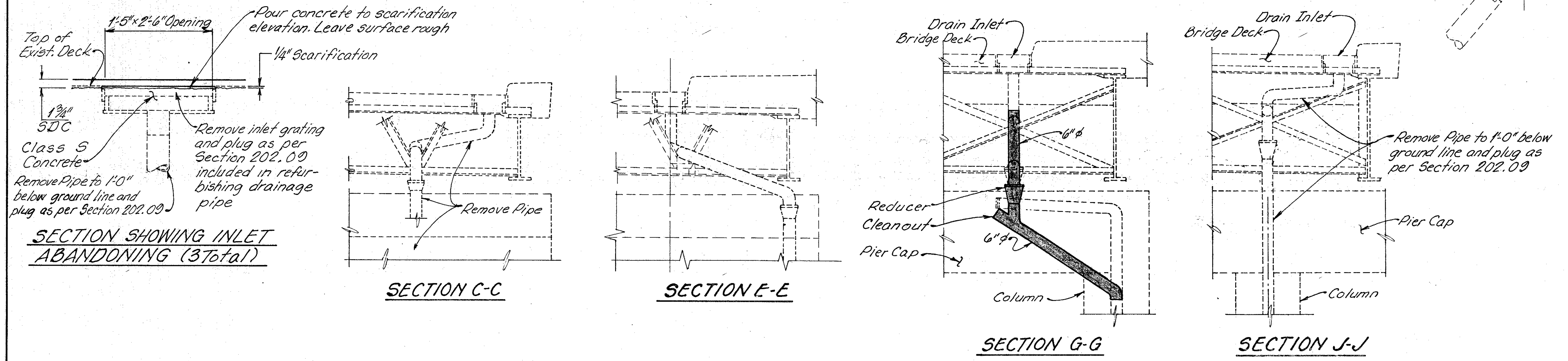
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 11/11/94	

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

325 / 401

HAM-71-1.30/9.0



1. For Drainage piping requirements see General Notes on sht 273/401
2. Approximate No. Linear Feet of proposed 6"⌀ pipe (including specials) = 20'

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Dayton, Ohio 45402-1226

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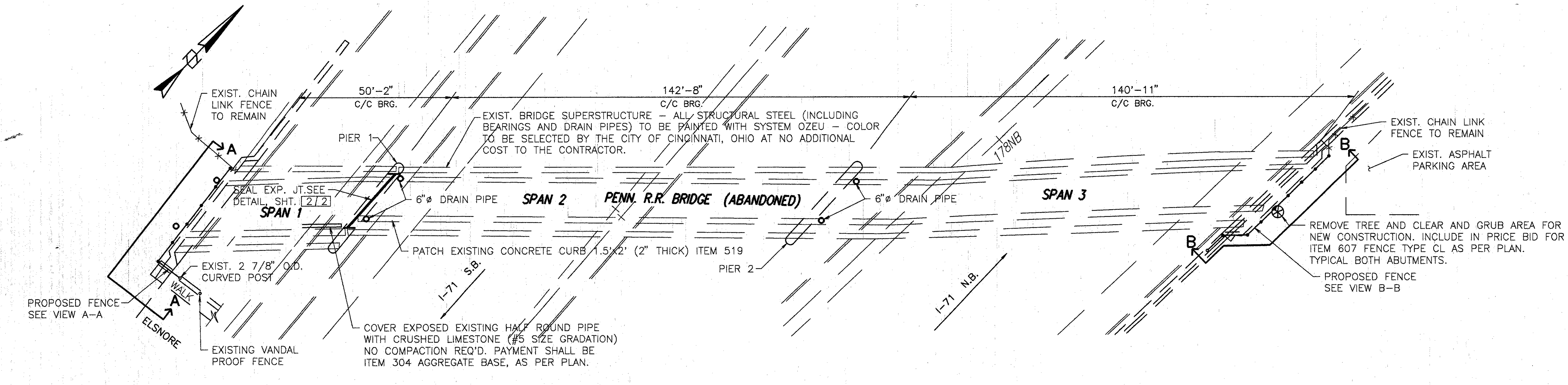
DRAINAGE DETAILS

BRIDGE NO. HAM-71-0221
OVER I-71

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
D.E.M.	RACH		L.A.T.	P.W.G.	11/11/94	

MEDIA RESOURCES CORP.



SITE PLAN

ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
304	20001	3	CU YD	AGGREGATE BASE, AS PER PLAN
SPECIAL	51267500	401	SQ YD	SEALING OF CONCRETE SURFACES *
SPECIAL	51267502	245	SQ YD	SEALING OF CONCRETE SURFACES (EPOXY) *
SPECIAL	51400050	56000	SQ FT	SURFACE PREPARATION OF EXISTING STEEL, SYSTEM OZEU *
SPECIAL	51400056	56000	SQ FT	FIELD PAINTING OF EXISTING STEEL, PRIME COAT, SYSTEM OZEU *
SPECIAL	51400060	56000	SQ FT	FIELD PAINTING OF EXISTING STEEL, INTERMEDIATE COAT, SYSTEM OZEU *
SPECIAL	51400066	56000	SQ FT	FIELD PAINTING OF EXISTING STEEL, FINISH COAT, SYSTEM OZEU *
SPECIAL	51400504	100	MAN HOUR	GRINDING FINS, TEARS, SLIVERS *
516	11211	20	LIN FT	STRUCTURAL EXPANSION JOINT INCLUDING ELASTOMERIC STRIP SEAL AS PER PLAN
519	11100	3	SQ FT	PATCHING CONCRETE STRUCTURE
607	20001	72	LIN FT	FENCE, TYPE CL, AS PER PLAN
607	20101	9	LIN FT	FENCE, TYPE CL, MISC. HT., AS PER PLAN
SPECIAL	6073990	15	LIN FT	VANDAL PROTECTION FENCE, 8' STRAIGHT, COATED FABRIC
516	14600	100	LIN FT	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2"x4" SEALER, AS PER PLAN
516	14600	50	LIN FT	SEAL JOINT BETWEEN ABUTMENT AND CONCRETE SLOPE PROTECTION
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
601	21100	2	S.Y	REPAIR CONCRETE SLOPE PROTECTION

* SEE PROPOSAL NOTE

PROPOSED WORK

1. INSTALL VANDAL PROTECTION FENCE.
2. SEAL DECK EXPANSION JOINT WITH STRIP SEAL.
3. PAINT STRUCTURAL STEEL WITH SYSTEM OZEU.
4. SEAL ABUTMENTS AND PIERS.
5. TRAFFIC SHALL BE MAINTAINED ON I-71 AT ALL TIMES. FOR NOTES, SEE MAINTENANCE OF TRAFFIC PLANS.
6. OTHER WORK AS DESCRIBED IN THESE PLANS.

CONCRETE SURFACES TO BE SEALED

1. ABUTMENT BACKWALL, SEAT AND EXPOSED BREASTWALL – EPOXY.
2. PIER 1 ~ TOP WITH EPOXY, EXPOSED STEM WITH NON-EPOXY.
3. PIER 2 ~ TOP AND SIDES OF STEM WITH NON-EPOXY.

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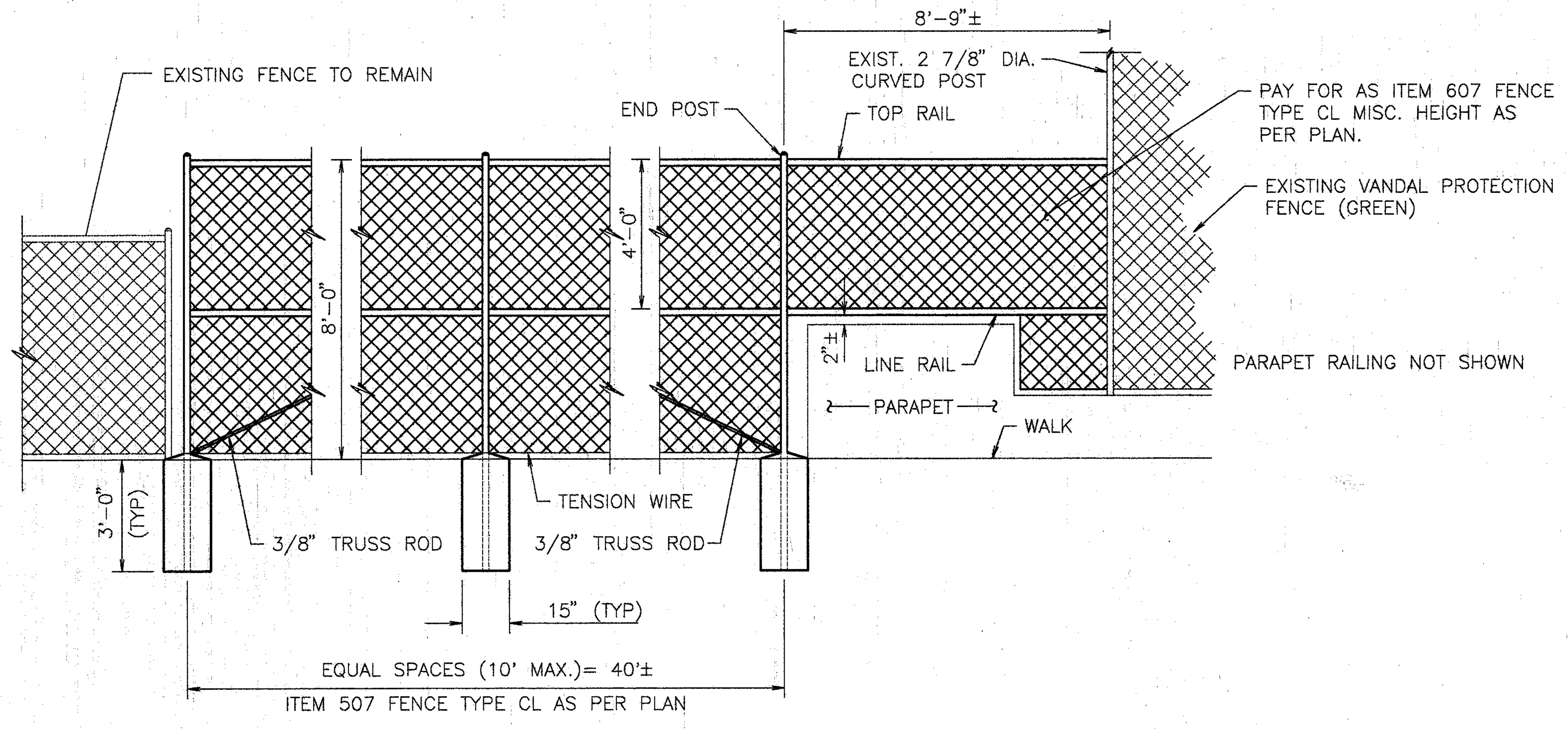
GENERAL SITE PLAN, NOTES, AND ESTIMATED QUANTITIES

BRIDGE NO. HAM-71-0226
PENN. R.R. OVER I-71

HAMILTON COUNTY

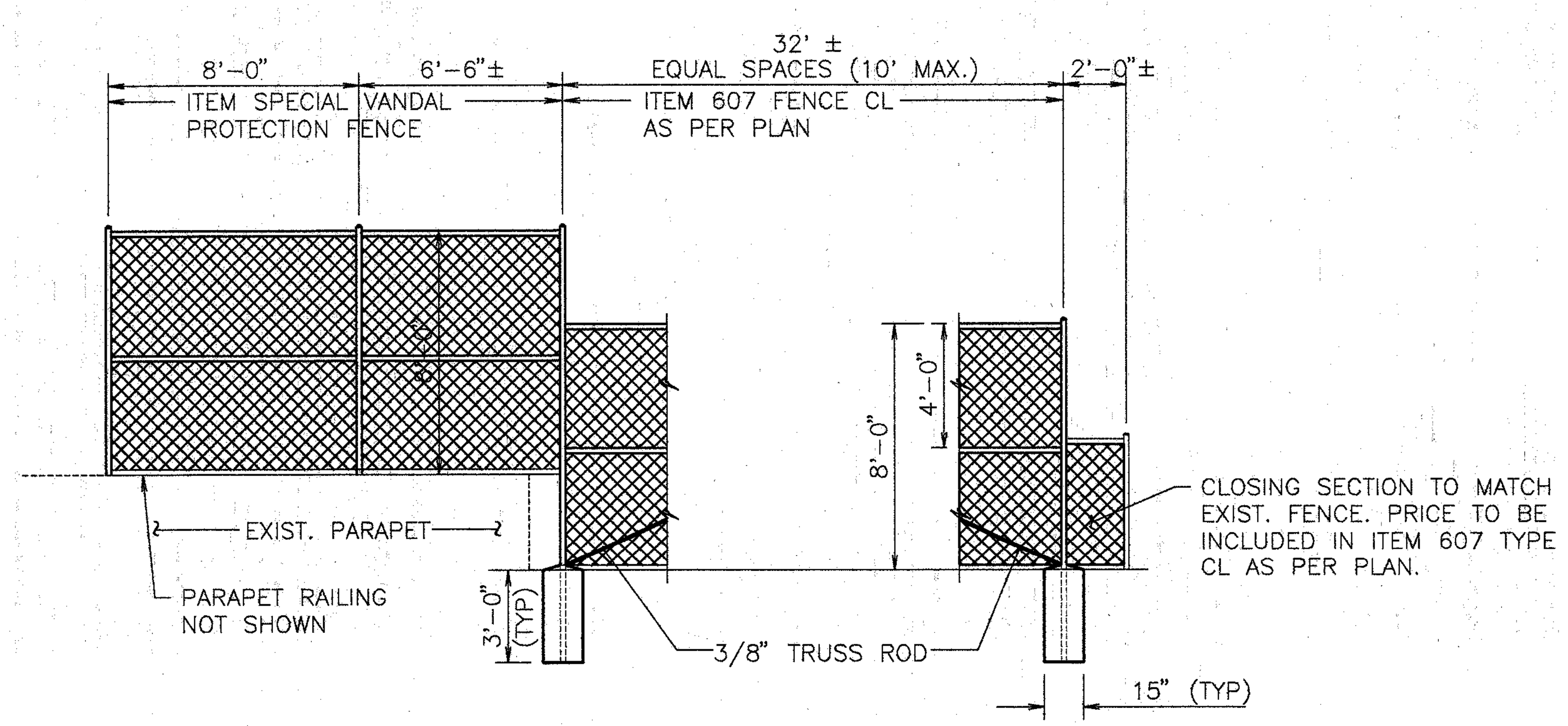
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	



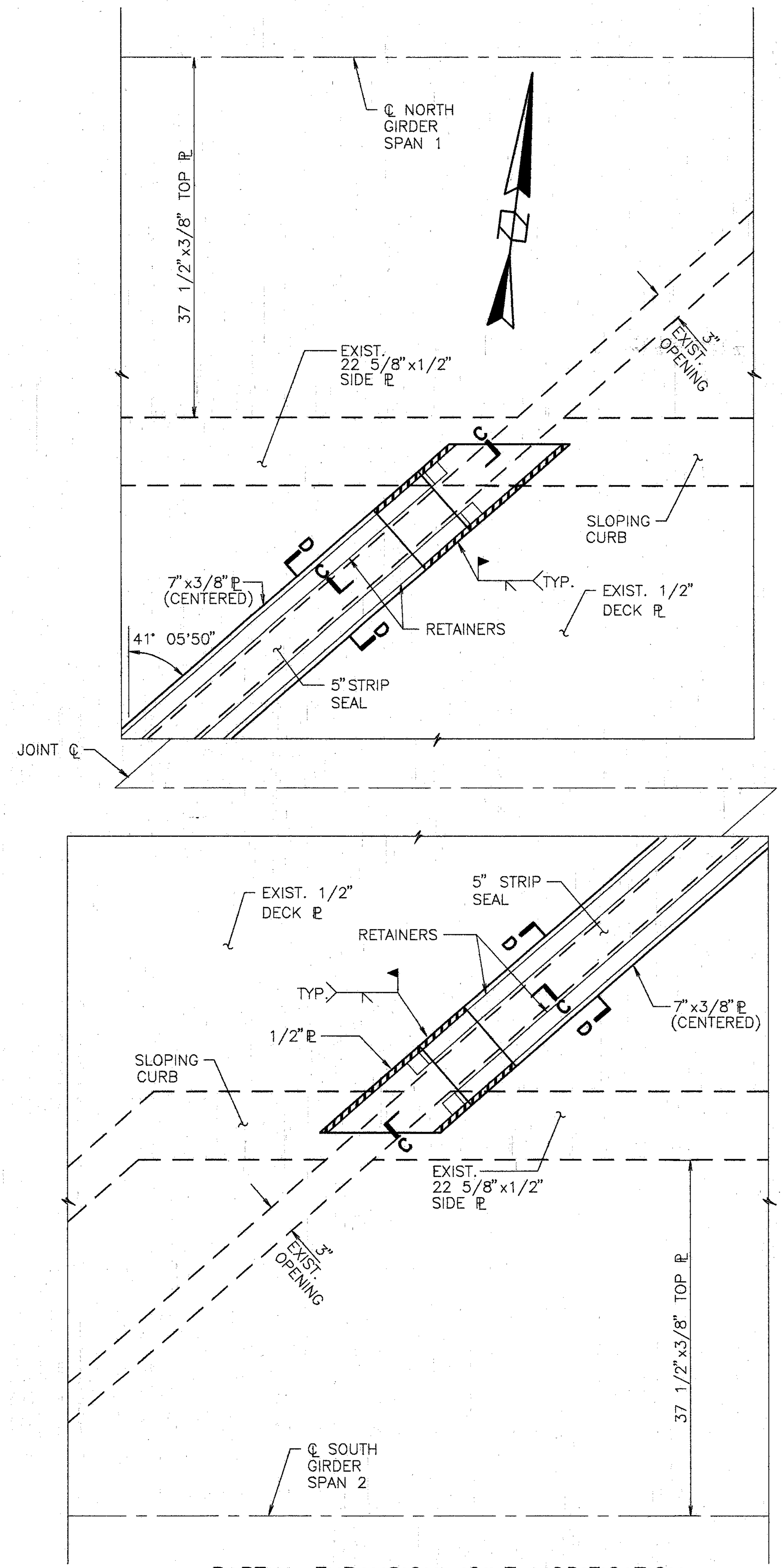
VIEW A-A

FENCE NOTES:

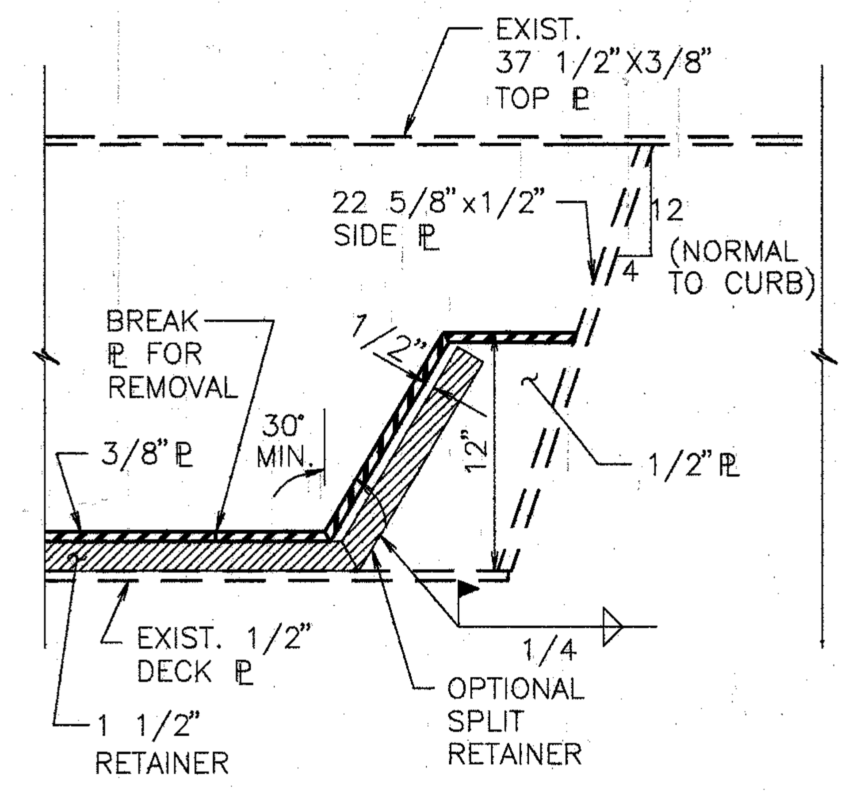
MATERIAL FOR ITEM 607 FENCE TYPE CL AS PER PLAN AND ITEM 607 FENCE TYPE MISC. HEIGHT AS PER PLAN SHALL MEET THE REQUIREMENTS OF VANDAL PROOF FENCE, 8' STRAIGHT, COATED FABRIC AS SHOWN ON SHEET 1 & 5 OF STANDARD DRAWING VPF-1-90, EXCEPT AS SHOWN. COLOR OF PROPOSED FENCE SHALL MATCH EXISTING FENCE ON ELSNORE AVE. (DARK GREEN).



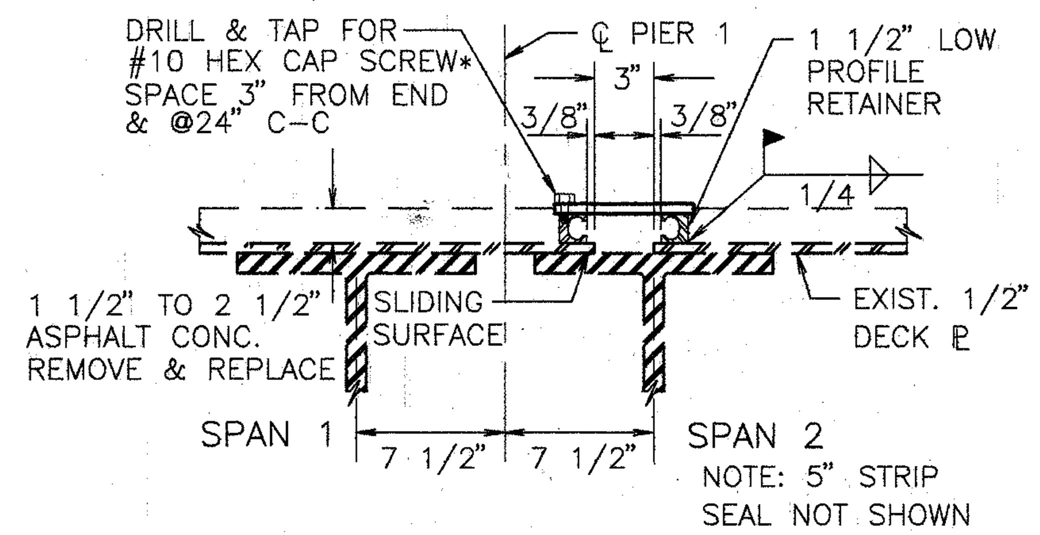
VIEW B-B



PARTIAL EXPANSION JOINT MODIFICATION



SECTION C-C



NOTE: 5" STRIP SEAL NOT SHOWN FOR CLARITY.

SECTION D-D

*SCREWS TO BE STAINLESS STEEL, ASTM A276, TYPE 310.

NOTES:
1. RETAINERS AND STEEL ℙ'S SHALL BE ASTM A588 STEEL AND PAINTED AS SPECIFIED FOR THE EXISTING STRUCTURAL STEEL.
2. REMOVE EXISTING JOINT SEALER FROM JOINT, REMOVE AND REPLACE EXISTING ASPHALT CONCRETE AND BALLAST AS REQUIRED TO CONSTRUCT JOINT.
3. STRIP SEAL SHALL BE INSTALLED IN ONE CONTINUOUS PIECE (NO OPEN JOINTS).
4. FOR STRIP SEAL, SPLIT RETAINER AND OTHER DETAILS NOT SHOWN SEE STD. DRAWING EXJ-4-87.
5. ALL WORK REQUIRED AND SPECIFIED HEREIN TO PROVIDE A WATER-TITE EXPANSION JOINT SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 516 STRUCTURAL EXPANSION JOINT INCLUDING STRIP SEAL.

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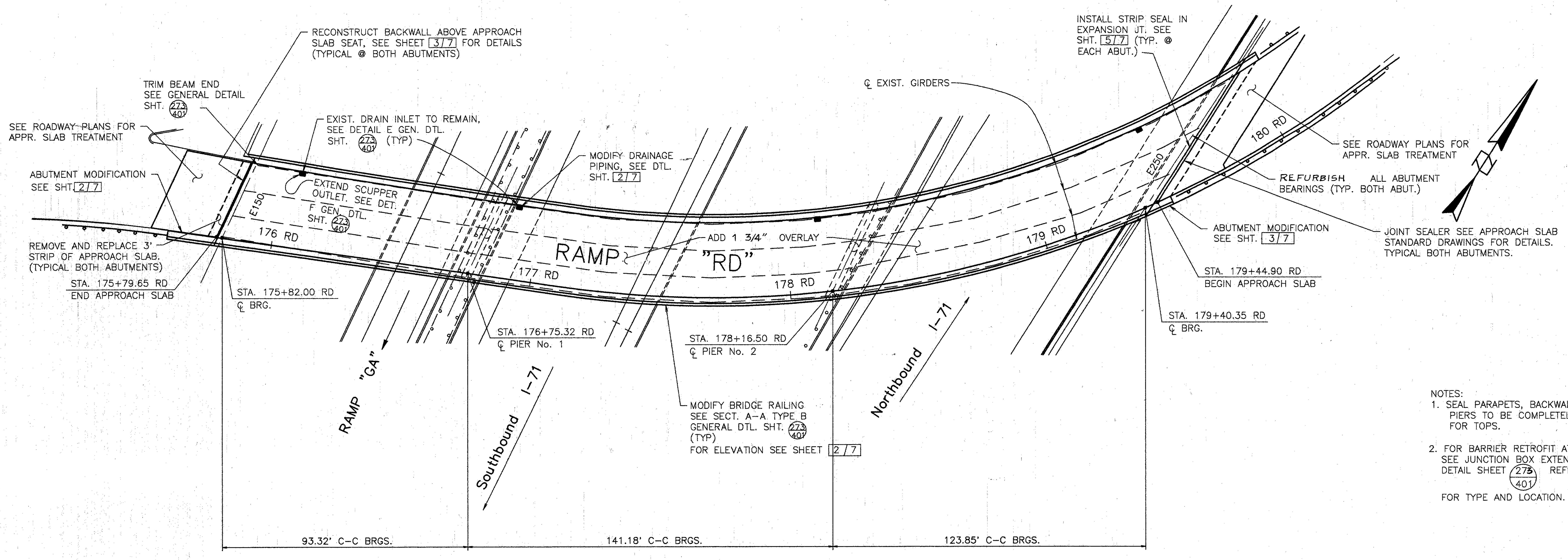
EXPANSION JOINT AND FENCING DETAILS

BRIDGE NO. HAM-71-0226
PENN. R.R. OVER I-71

HAMILTON COUNTY

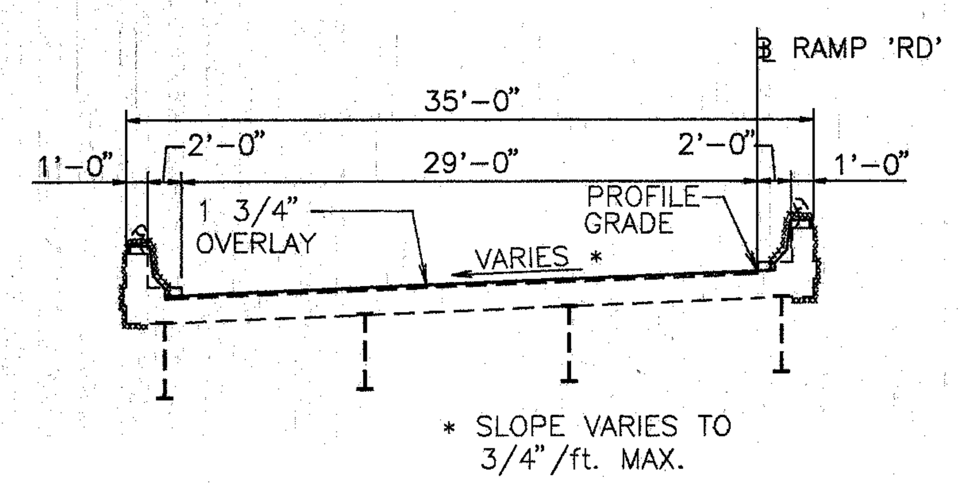
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	

Last Plot: JUL. 12, 1994 @ 8:16 AM
G:\STR\16596-07\512 Last Revision By: B.S. JUL. 13, 1994 @ 5:00 PM



PLAN

NOTES:
1. SEAL PARAPETS, BACKWALLS, AND PIERS. PIERS TO BE COMPLETELY SEALED EXCEPT FOR TOPS.
2. FOR BARRIER RETROFIT AT JUNCTION BOXES, SEE JUNCTION BOX EXTENSION DETAIL, GENERAL DETAIL SHEET 275/401 REFER TO LIGHTING DETAILS FOR TYPE AND LOCATION.



TYP. BRIDGE SECTION

SLIDING OR FIXED ℗ SIZE	JACK CAPACITY REQ'D. (MIN)
E150	100 TON
E250	150 TON

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL GIRDER WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: 93.32', 141.18' & 123.85' C/C BRGS. MEASURED ALONG ℄
ROADWAY: 29'-0" F/F CURBS
SKEW: VARIES, SEE PLAN
LOADING FREQUENCY: C.F.=2000 (57) ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: TANGENT & 14°00'00" CURVE LEFT
SUPERELEVATION: VARIES, SEE PLAN
CURB: 2'-0" EACH SIDE

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GENERAL PLAN

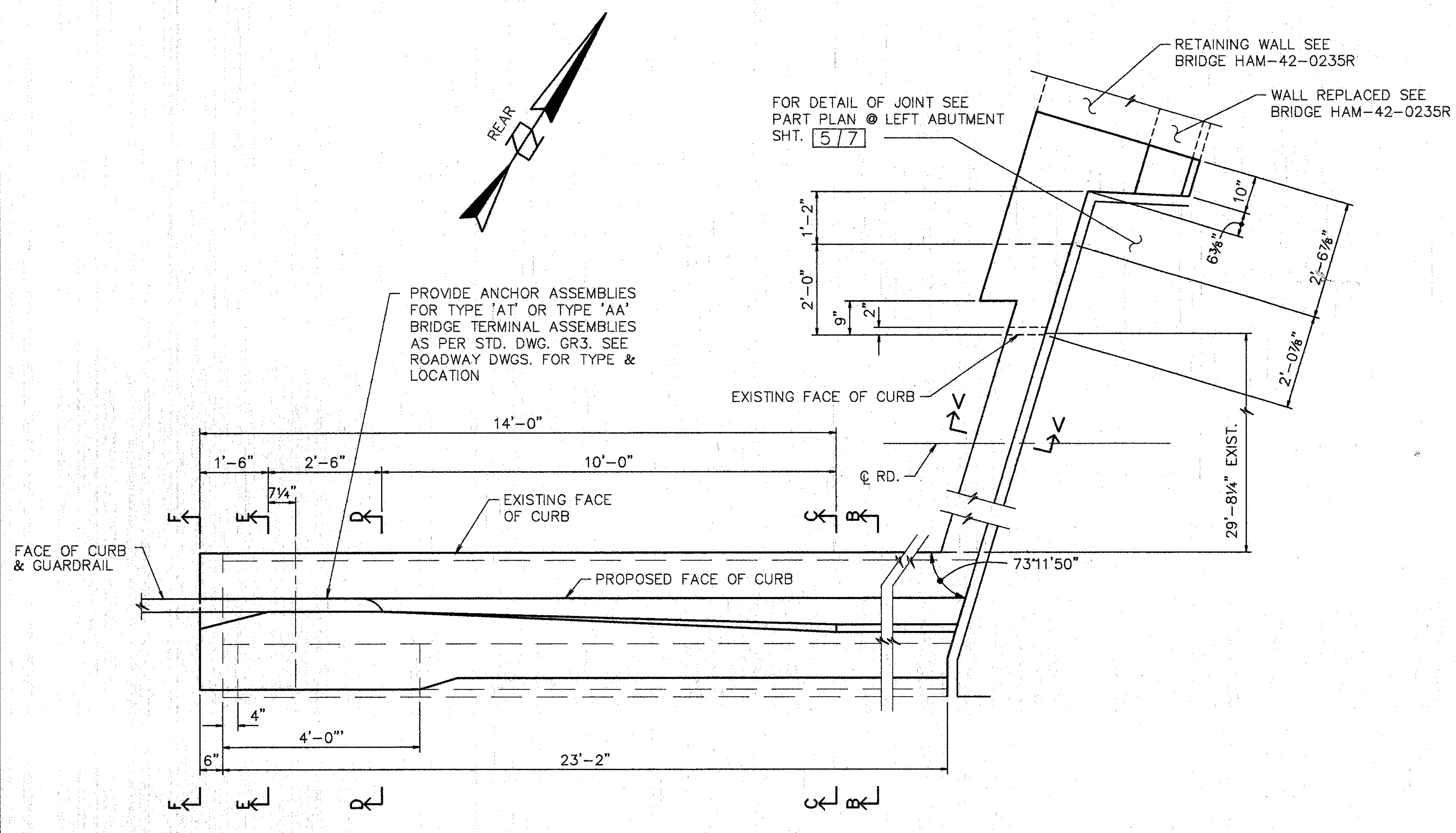
BRIDGE NO. HAM-71-0228 RAMP OVER I-71

HAMILTON COUNTY

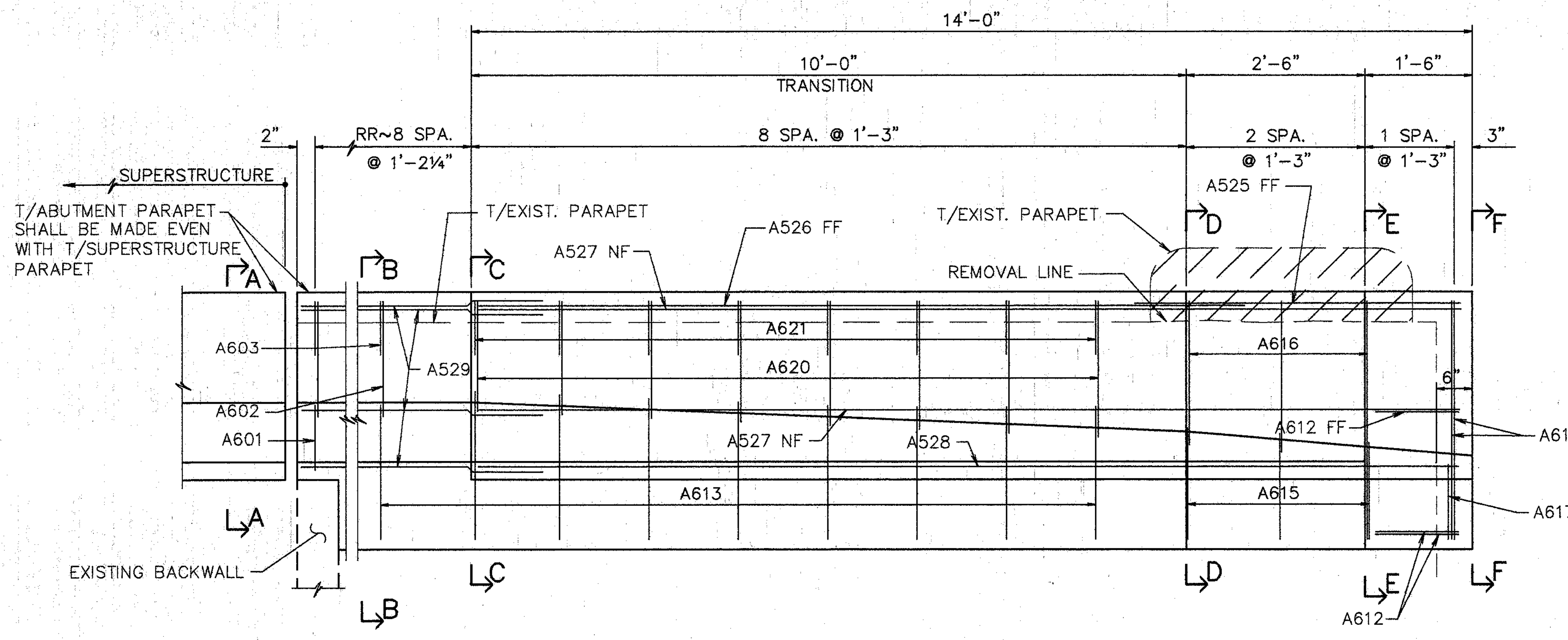
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	

Last Plot: MAY 15, 1991 @ 7:09 PM Last Revision By: D.E.E. APR. 1, 1994 @ 3:34 PM

CALC. BY L.A.T.M. CHK'D BY DEM

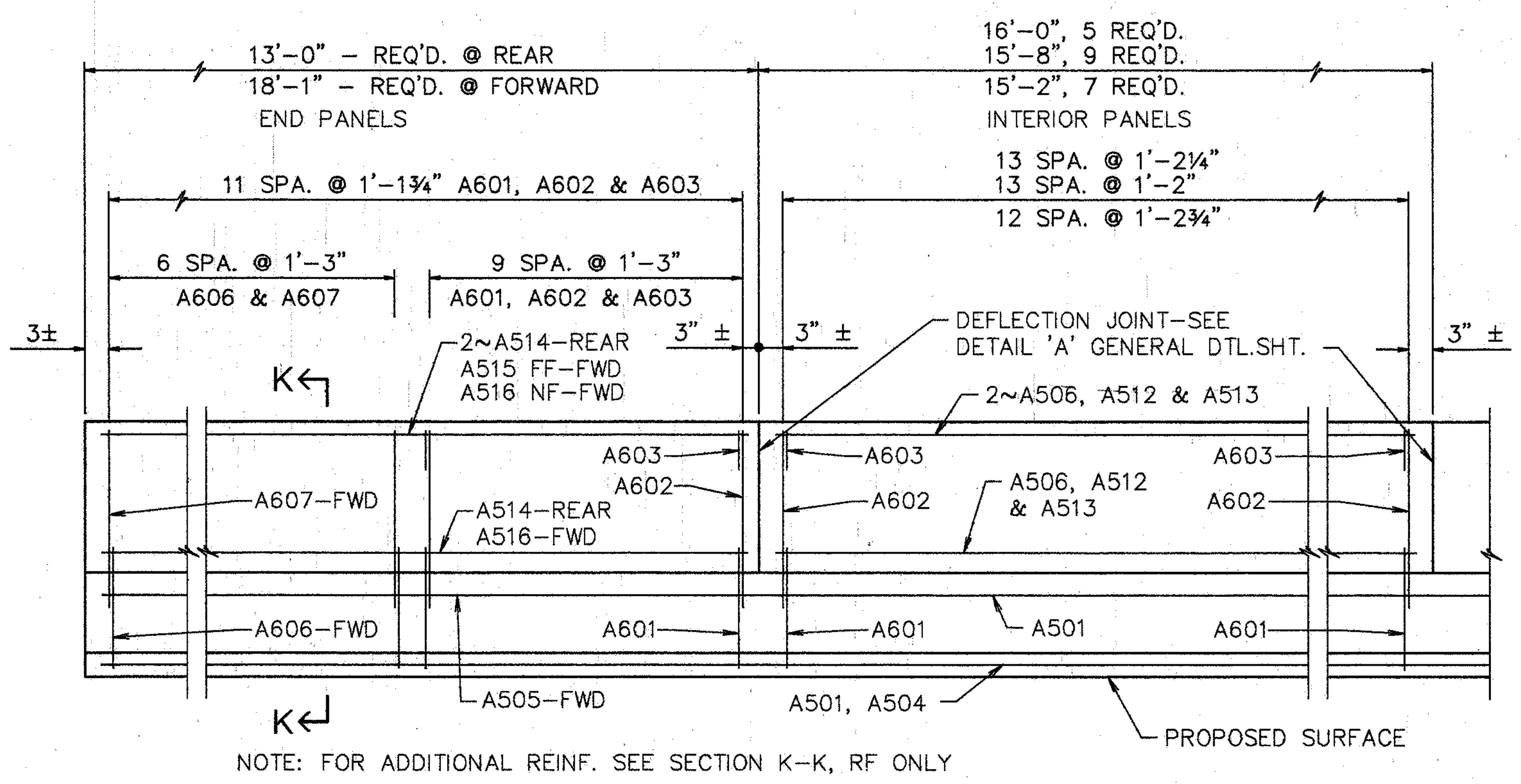


PLAN – REAR ABUTMENT MODIFICATION



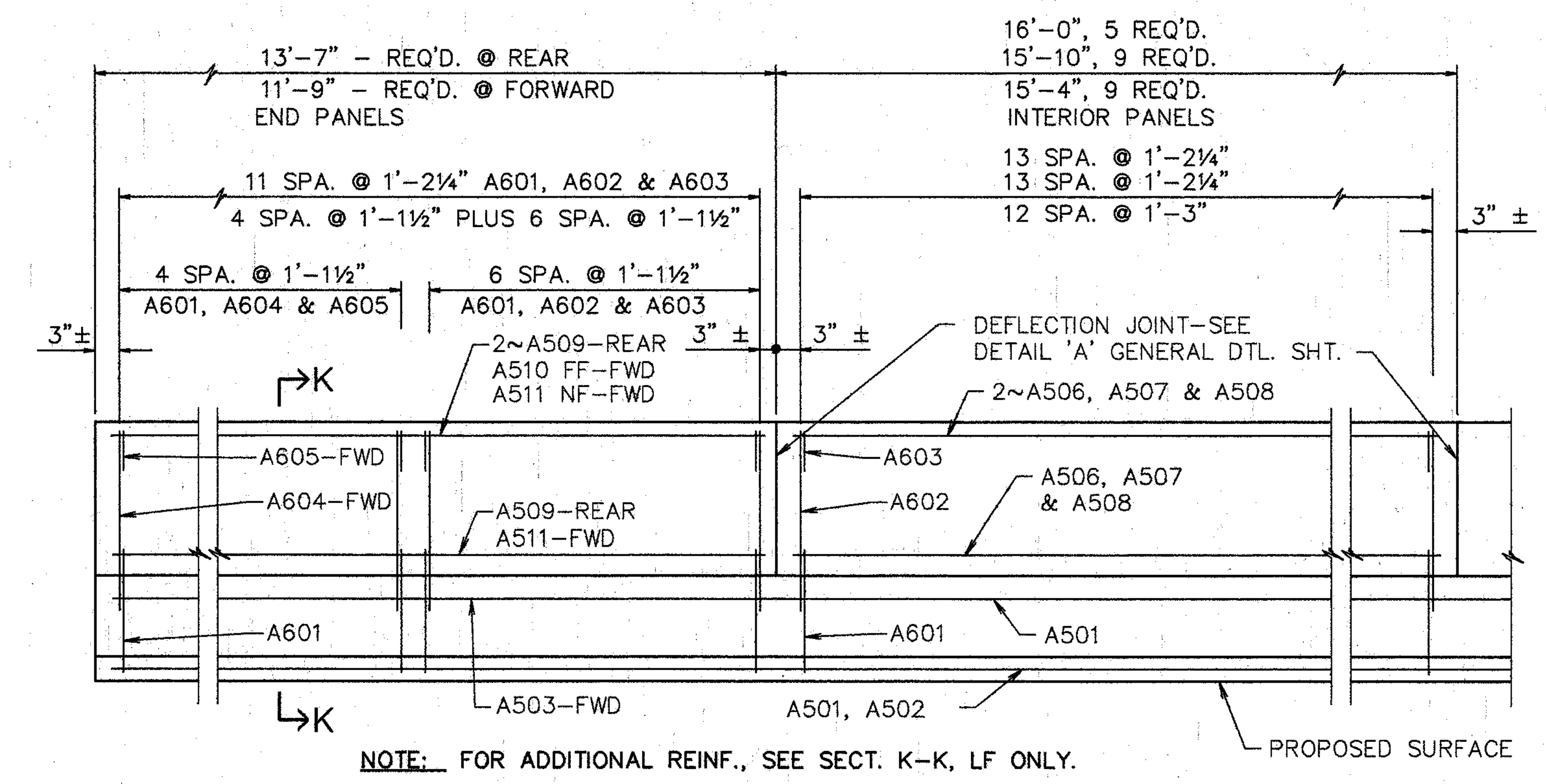
FOR SECTION A-A SEE GENERAL DETAIL SHT. 273/401

ELEVATION RIGHT-REAR



NOTE: FOR ADDITIONAL REINF. SEE SECTION K-K, RF ONLY

ELEVATION SUPERSTRUCTURE PARAPET – RIGHT



NOTE: FOR ADDITIONAL REINF., SEE SECT. K-K, LF ONLY.

ELEVATION SUPERSTRUCTURE PARAPET – LEFT

NOTES:

L DENOTES LEFT SIDE
R DENOTES RIGHT SIDE
RF DENOTES RIGHT FORWARD
LF DENOTES LEFT FORWARD
RR DENOTES RIGHT REAR
LR DENOTES LEFT REAR
NF DENOTES NEAR FACE
FF DENOTES FAR FACE

FOR DETAILS NOT SHOWN, SEE SHTS. 3,4, & 5/7

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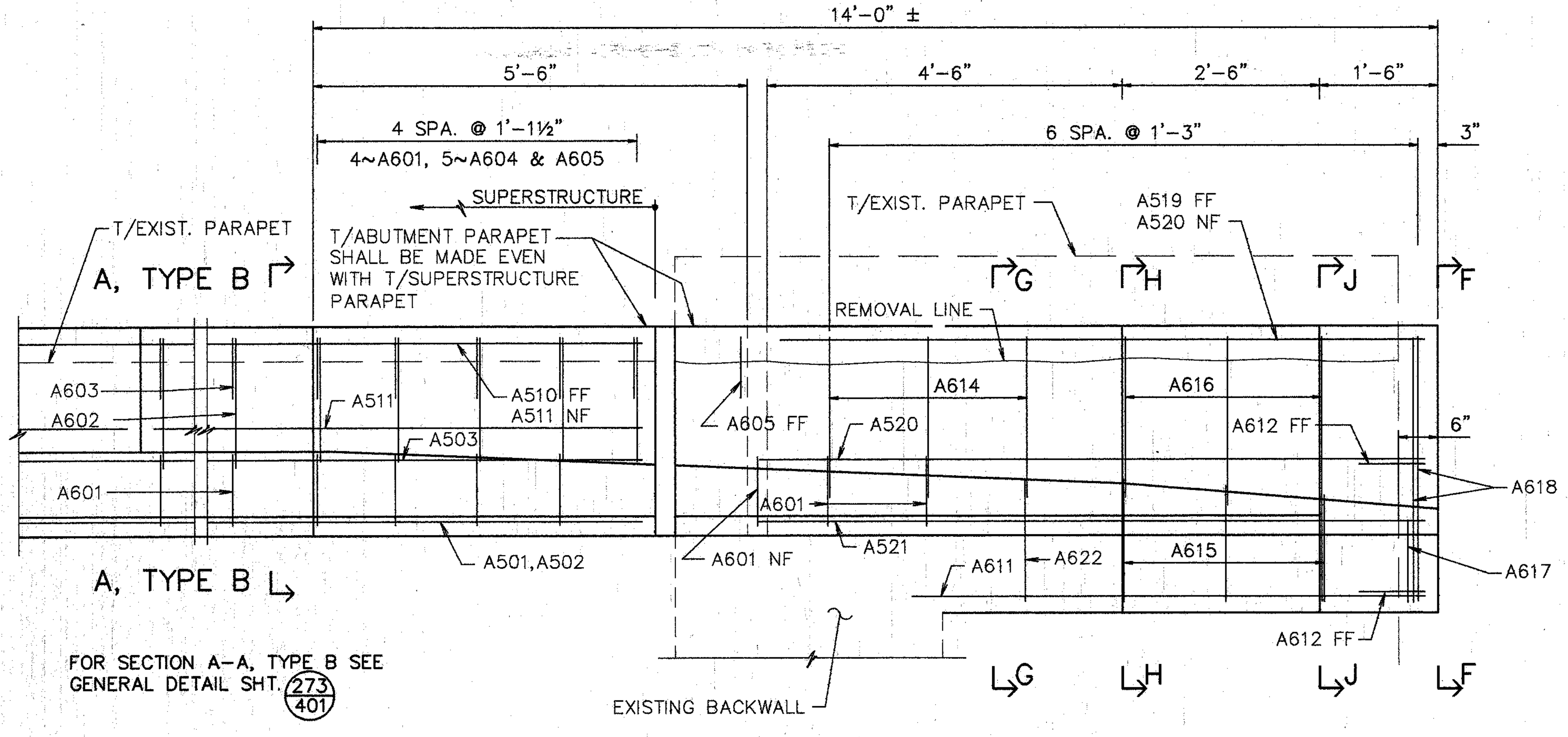
ABUTMENT PLAN & PARAPET ELEVATIONS

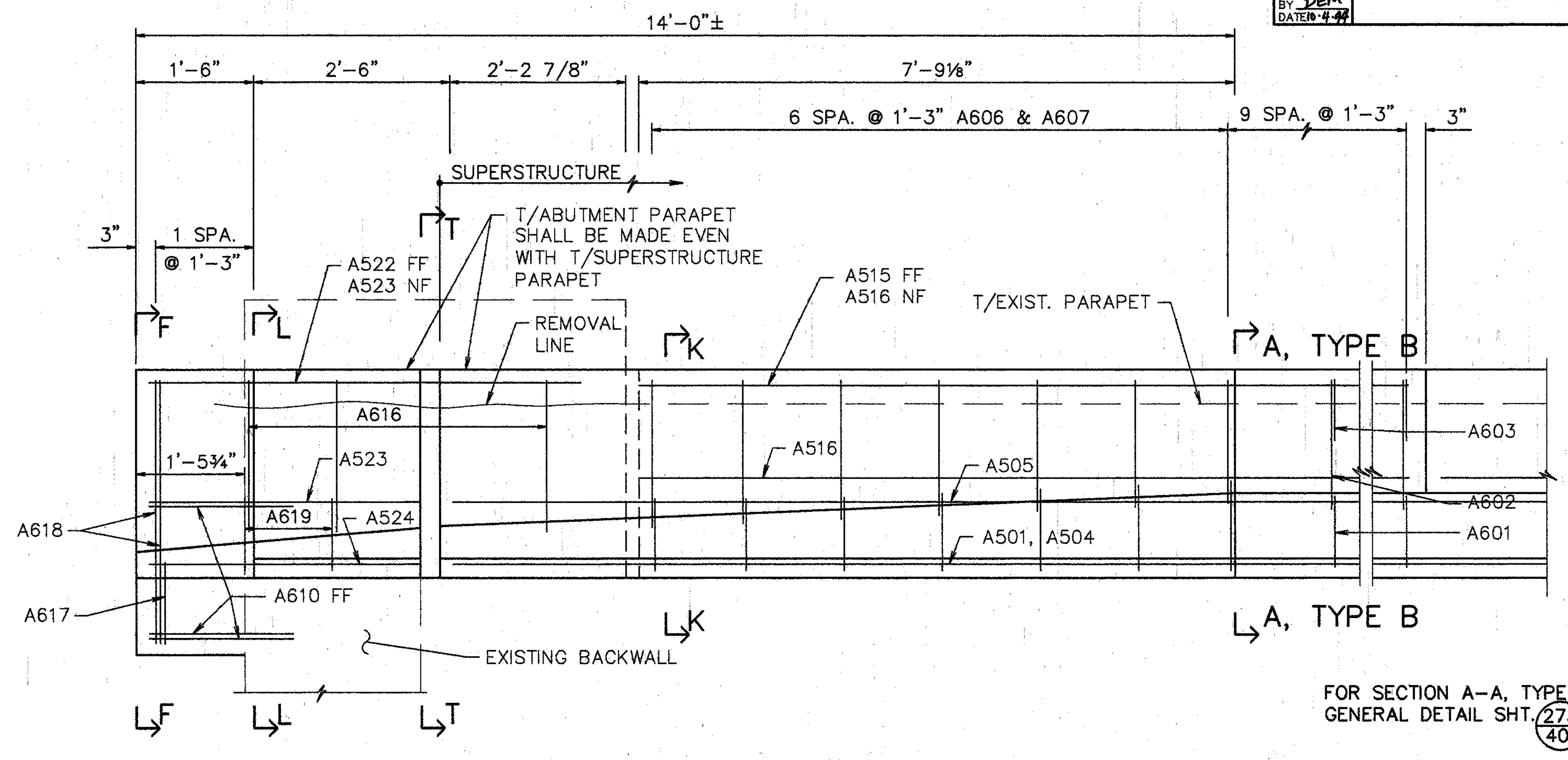
BRIDGE NO. HAM-71-0228 RAMP OVER I-71

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM	11/11/94	



ELEVATION LEFT-FORWARD



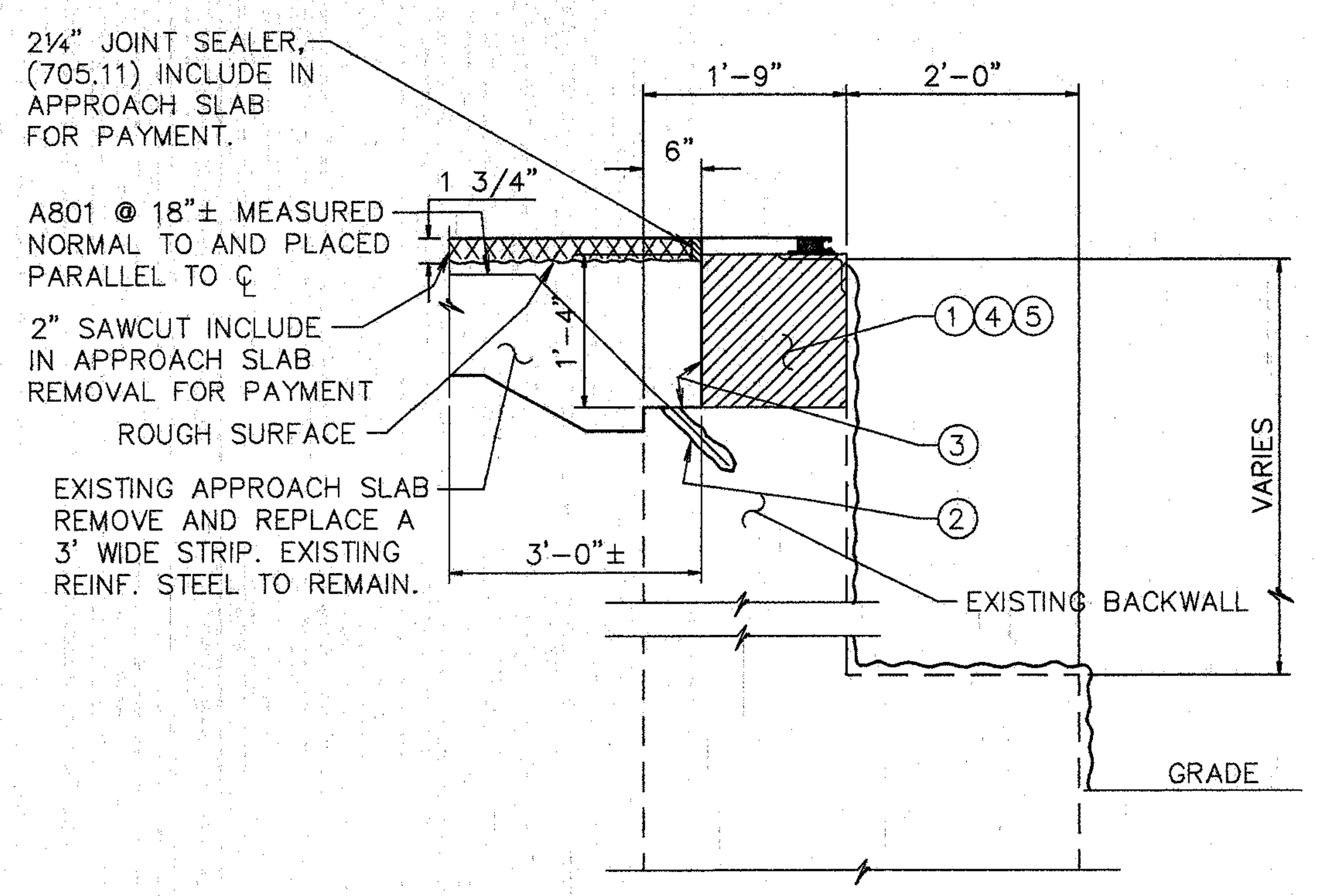
ELEVATION RIGHT-FORWARD

NOTES FOR SECTION V-V

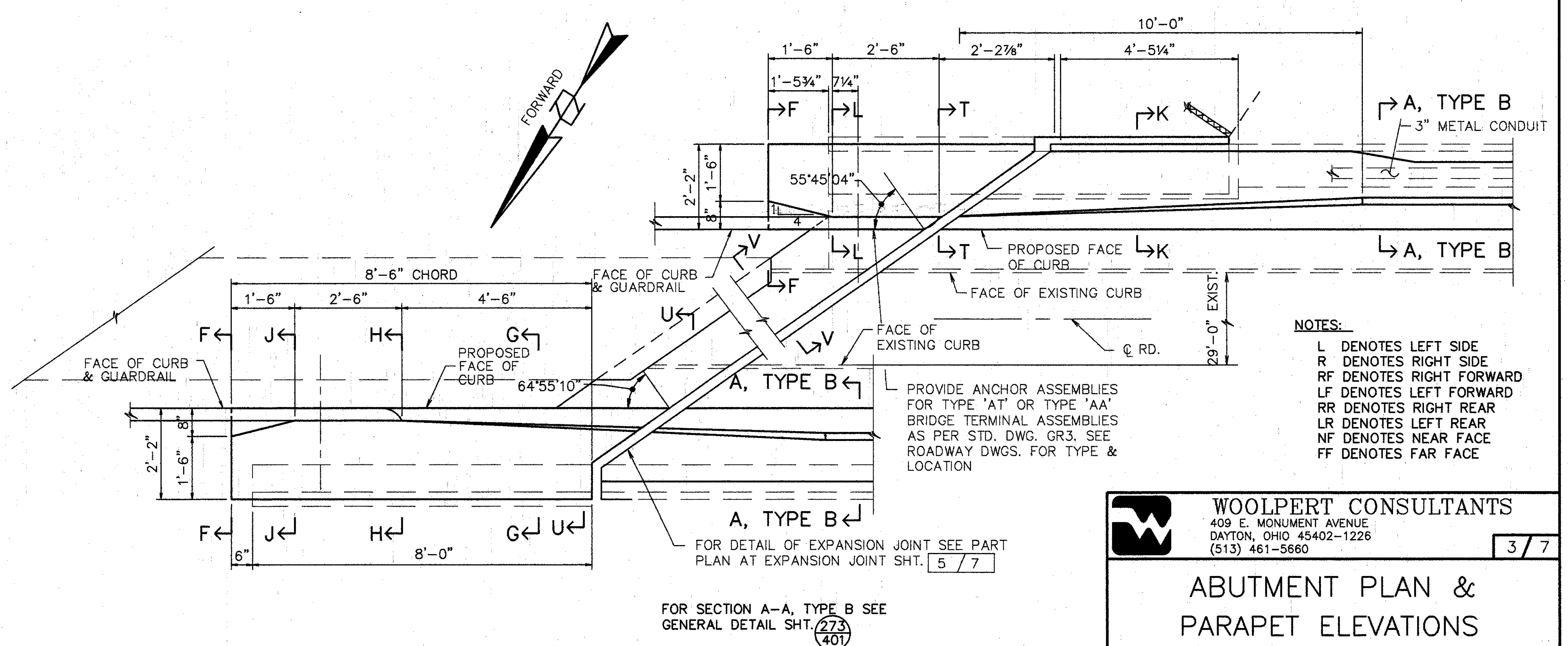
1. EXISTING REINFORCING STEEL TO REMAIN ~ REINFORCING STEEL DAMAGED TO BE REPLACED AT CONTRACTORS EXPENSE.
2. 1' MIN. EMBEDMENT (SEE DOWEL HOLE GENERAL NOTE) ITEM 510.
3. TYPE 'A' WATERPROOFING (PAYMENT INCLUDED IN THE PRICE BID FOR APPROACH SLAB).
4. CLASS 'C' CONCRETE, ABUTMENT RECONSTRUCTION.
5. PROVIDE CONTRACTION AND EXPANSION JOINTS TO MATCH THOSE IN EXISTING BACKWALL AND PROVIDE CONSTRUCTION JOINTS AS REQUIRED TO MAINTAIN TRAFFIC. PAYMENT TO BE INCLUDED IN PRICE BID FOR ITEM 511 CLASS C CONCRETE RECONSTRUCTION.

EXISTING CONCRETE TO BE REMOVED INCLUDE IN ITEM 202 FOR PAYMENT.

SURFACE TO BE SEALED UNDER ITEM SPECIAL- 'SEALING OF CONCRETE SURFACE, EPOXY'.



SECTION V-V



NOTES:
- L DENOTES LEFT SIDE
- R DENOTES RIGHT SIDE
- RF DENOTES RIGHT FORWARD
- LF DENOTES LEFT FORWARD
- RR DENOTES RIGHT REAR
- LR DENOTES LEFT REAR
- NF DENOTES NEAR FACE
- FF DENOTES FAR FACE

FOR DETAILS NOT SHOWN, SEE SHTS. 4, & 5/7

PLAN - FORWARD ABUTMENT MODIFICATION

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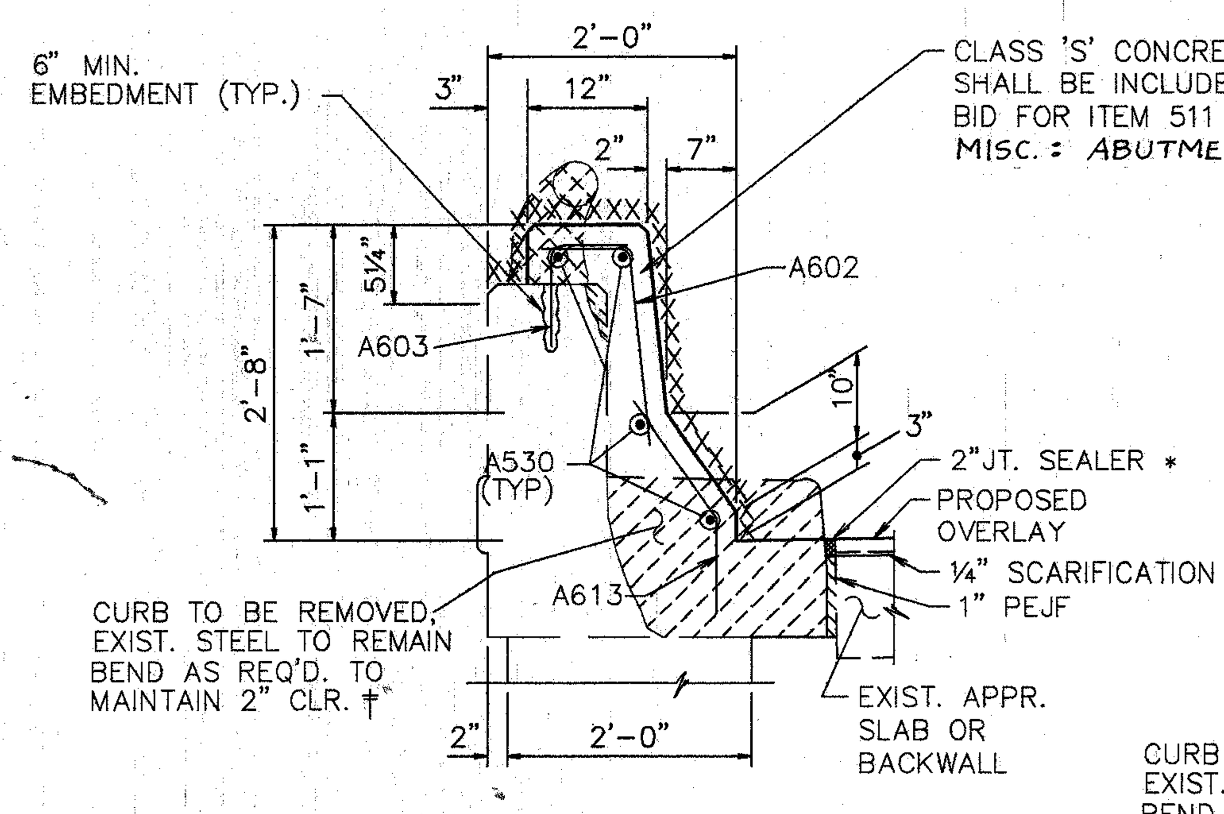
ABUTMENT PLAN & PARAPET ELEVATIONS

BRIDGE NO. HAM-71-0228 RAMP OVER I-71

HAMILTON COUNTY

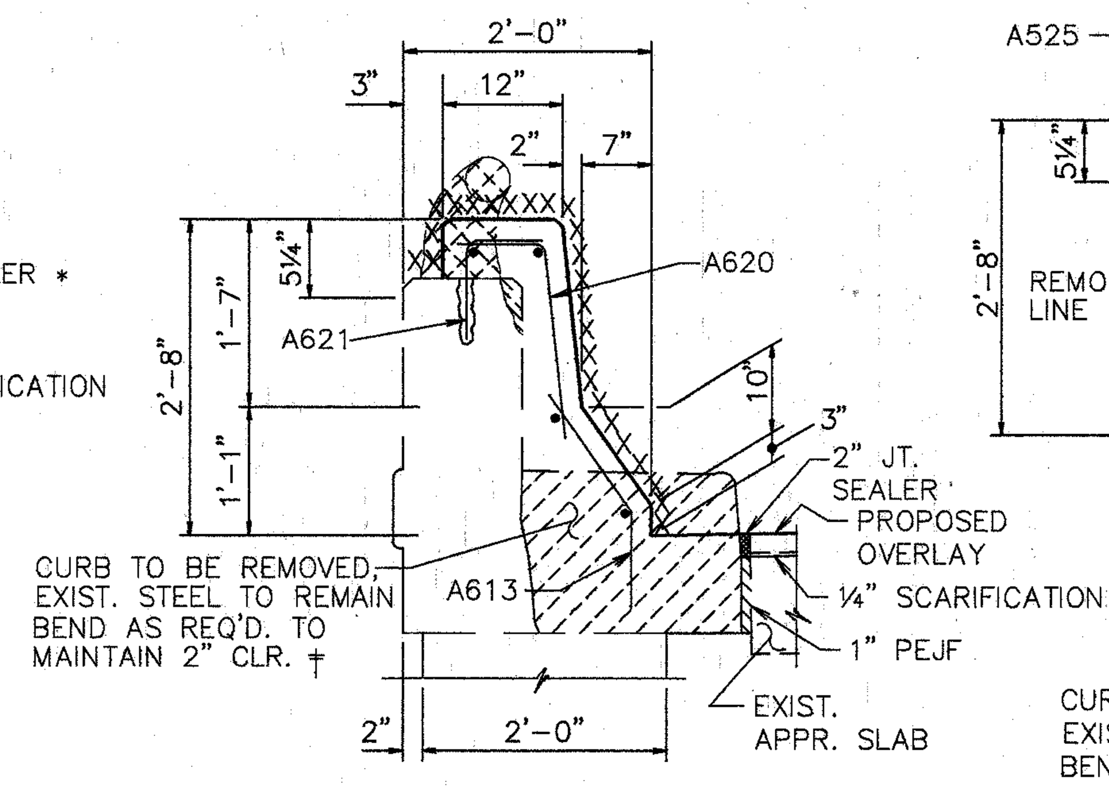
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM11/11/94	



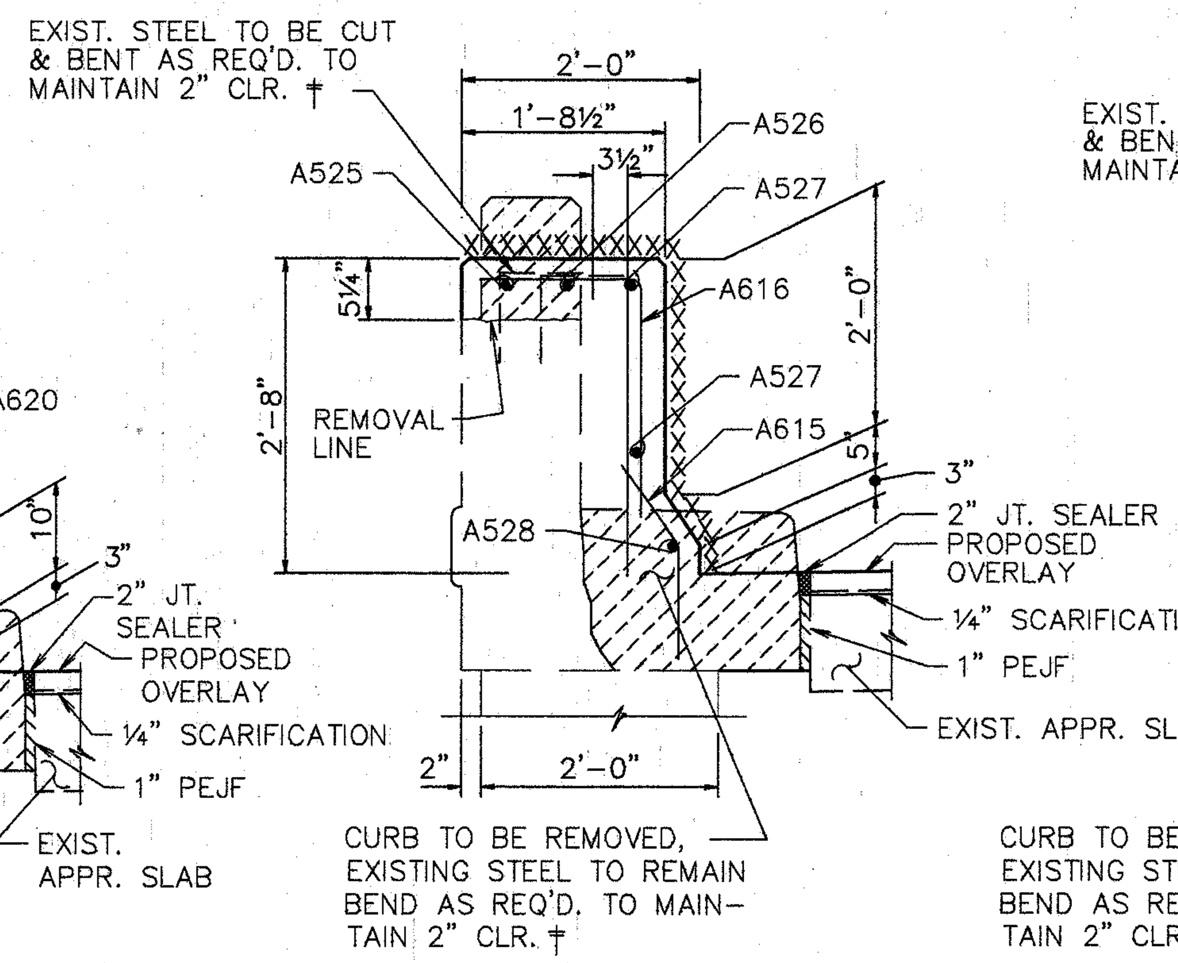
NOTE: WHEN SECTION IS ON BACKWALL, CONCRETE SHALL BE REMOVED TO THE SCARIFICATION LEVEL ONLY AND THE A613 BARS SHALL BE EMBEDED (6" MIN) INTO ABUTMENT. FOR REFERENCE SEE SECTION A-A TYPE B, GEN. DTL. 273/401

SECTION B-B

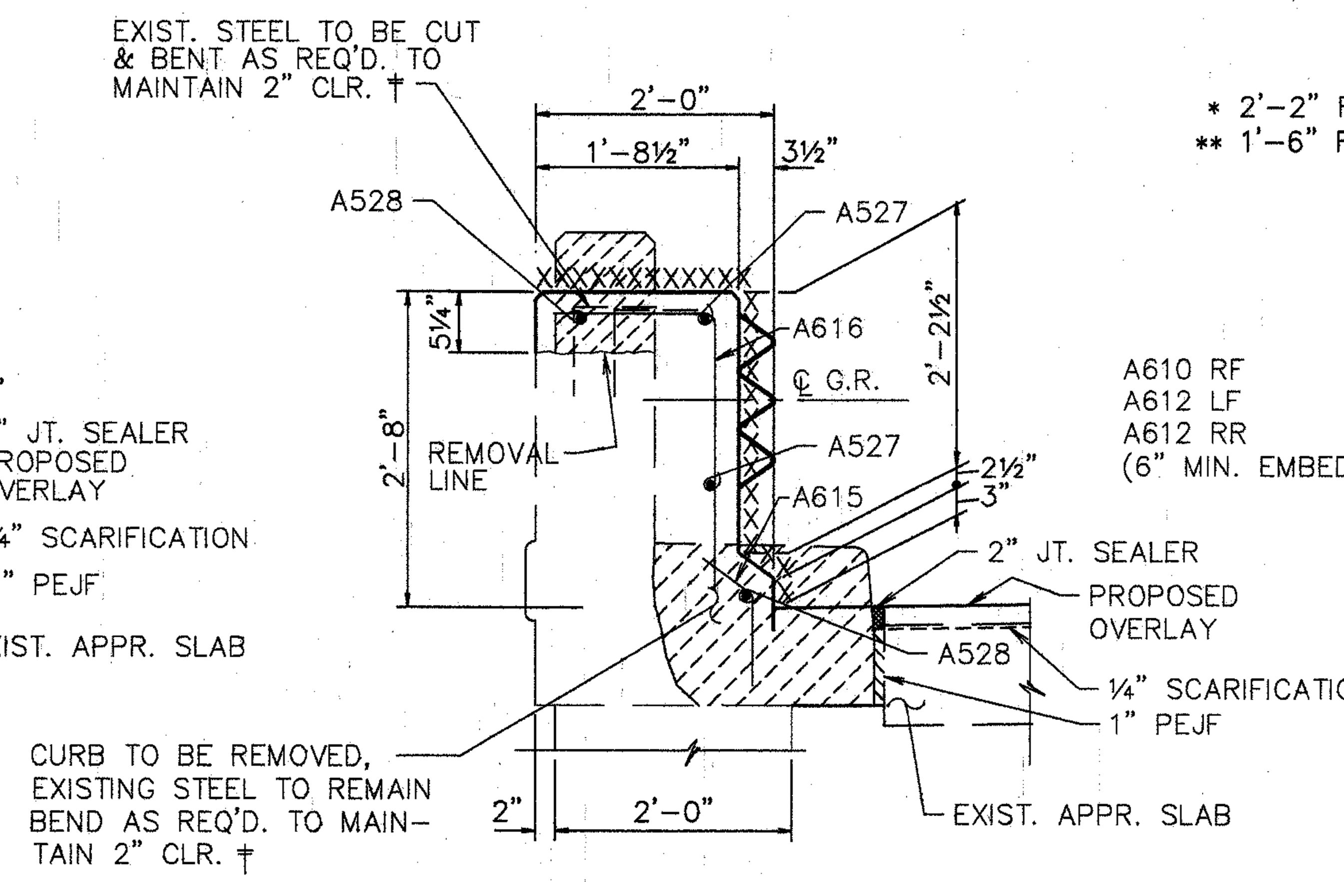
* 2" JOINT SEALER & 1" PEJF ARE PLACED ONLY WHEN SECTION IS NEXT TO APPROACH SLAB.



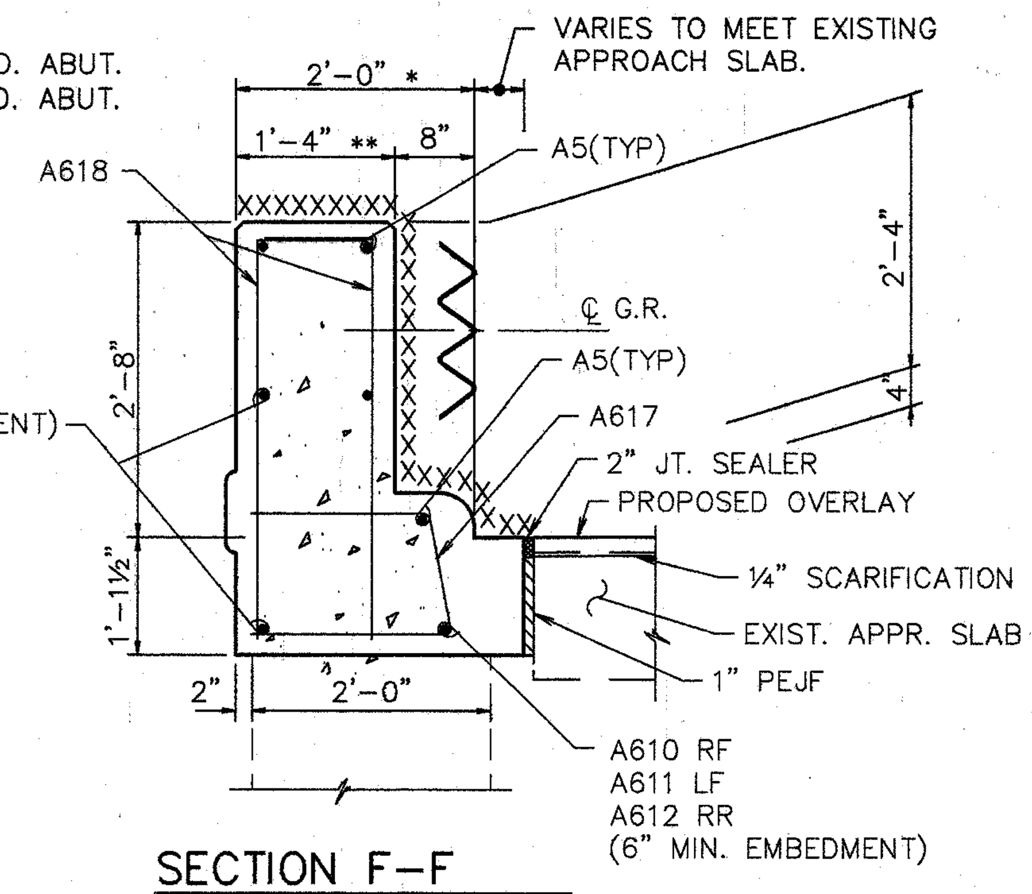
SECTION C-C



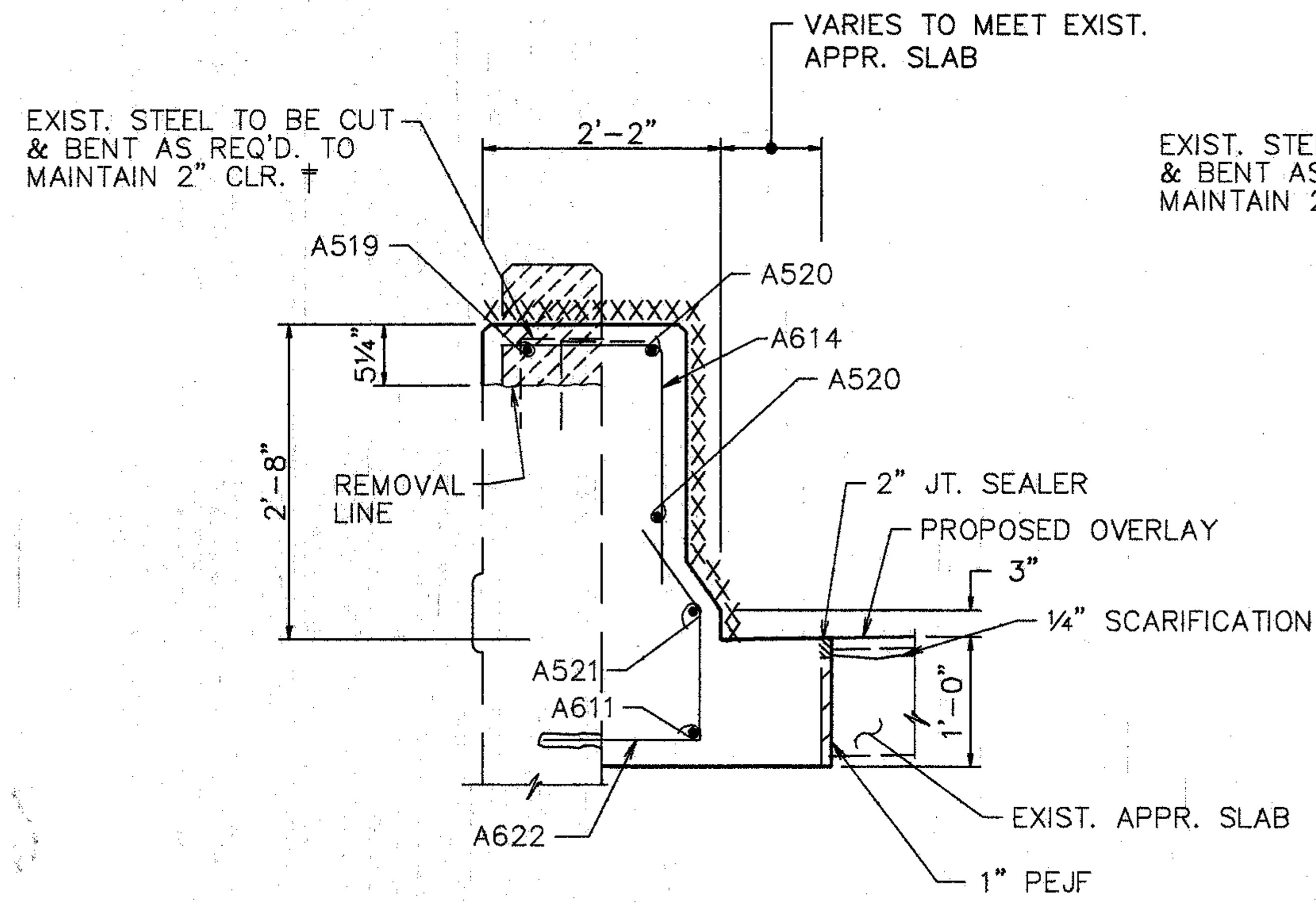
SECTION D-D



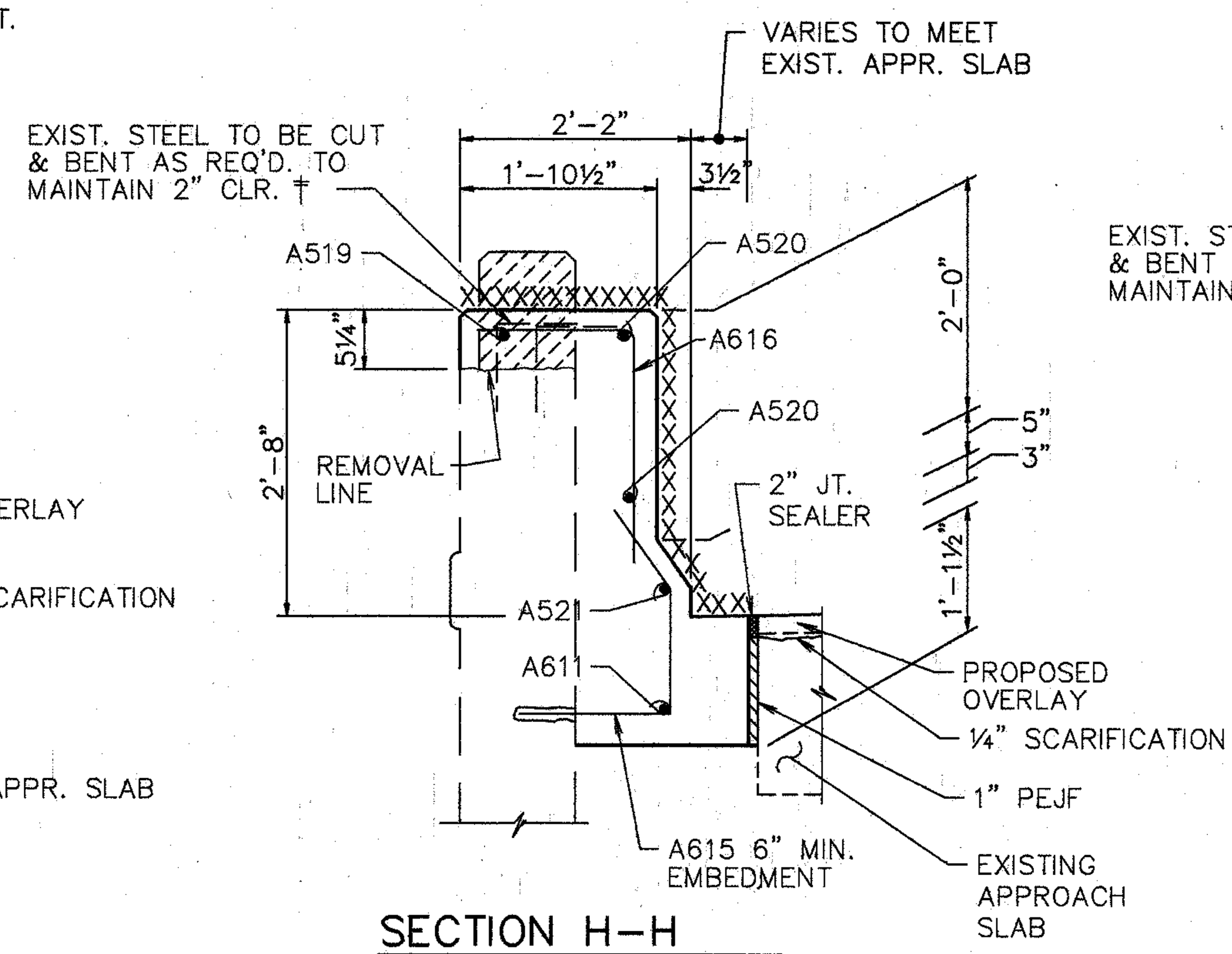
SECTION E-E



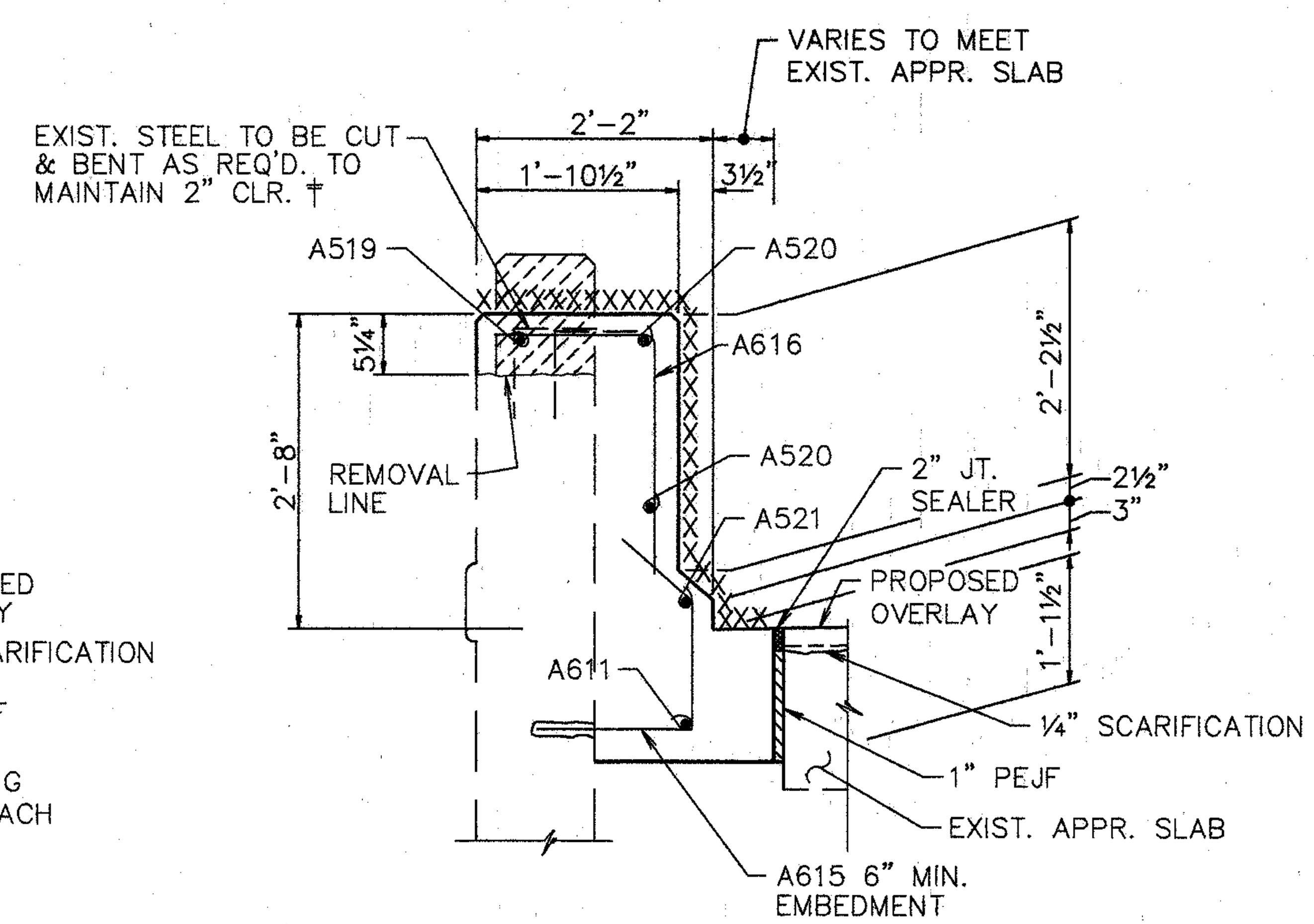
SECTION F-F



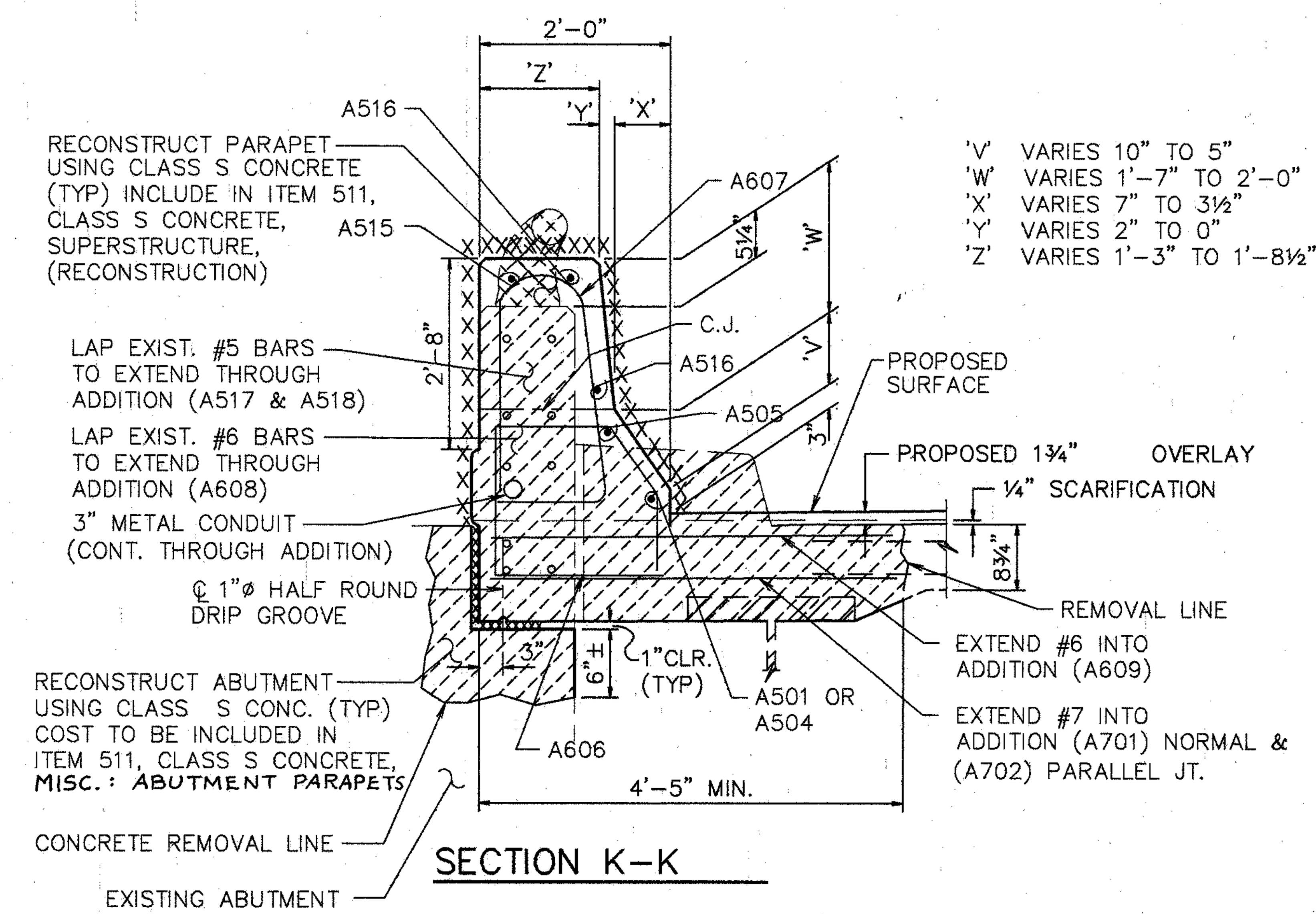
SECTION G-G



SECTION H-H

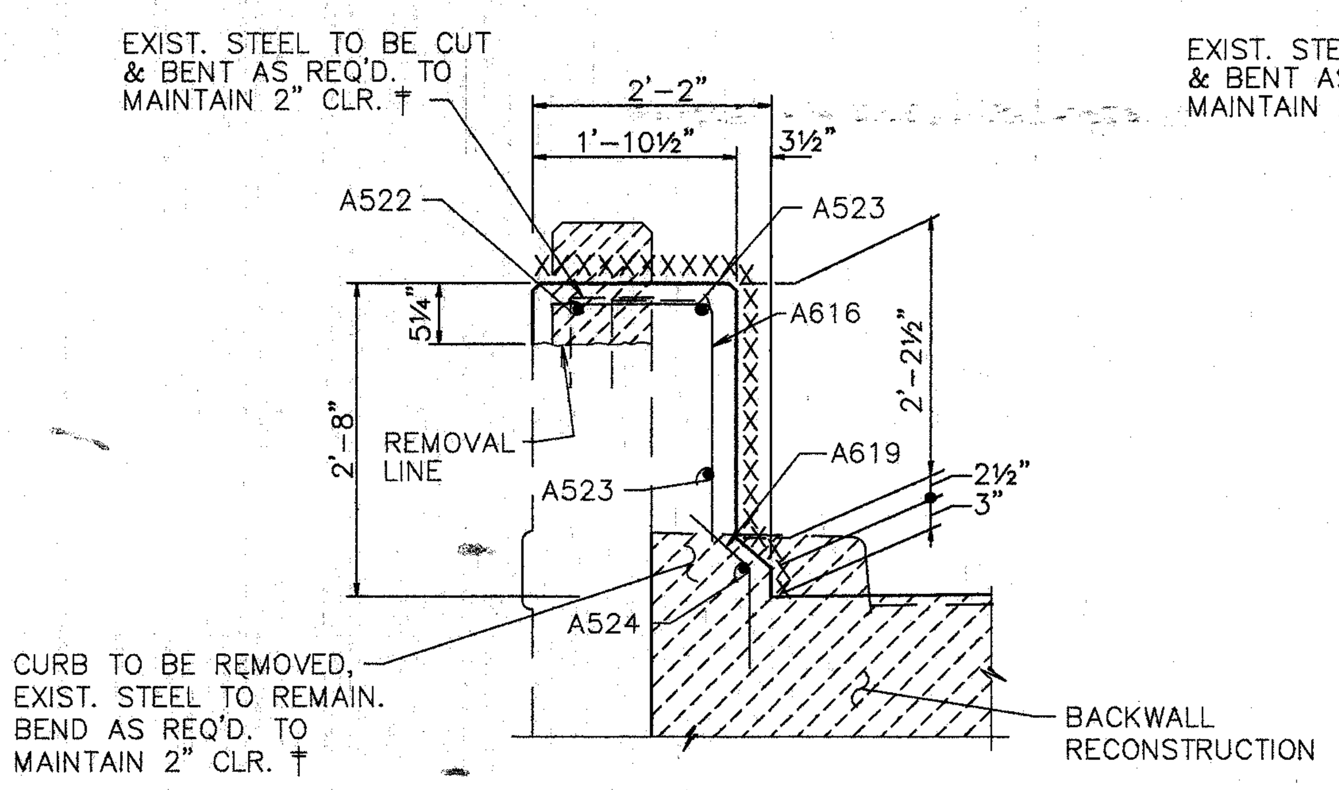


SECTION J-J

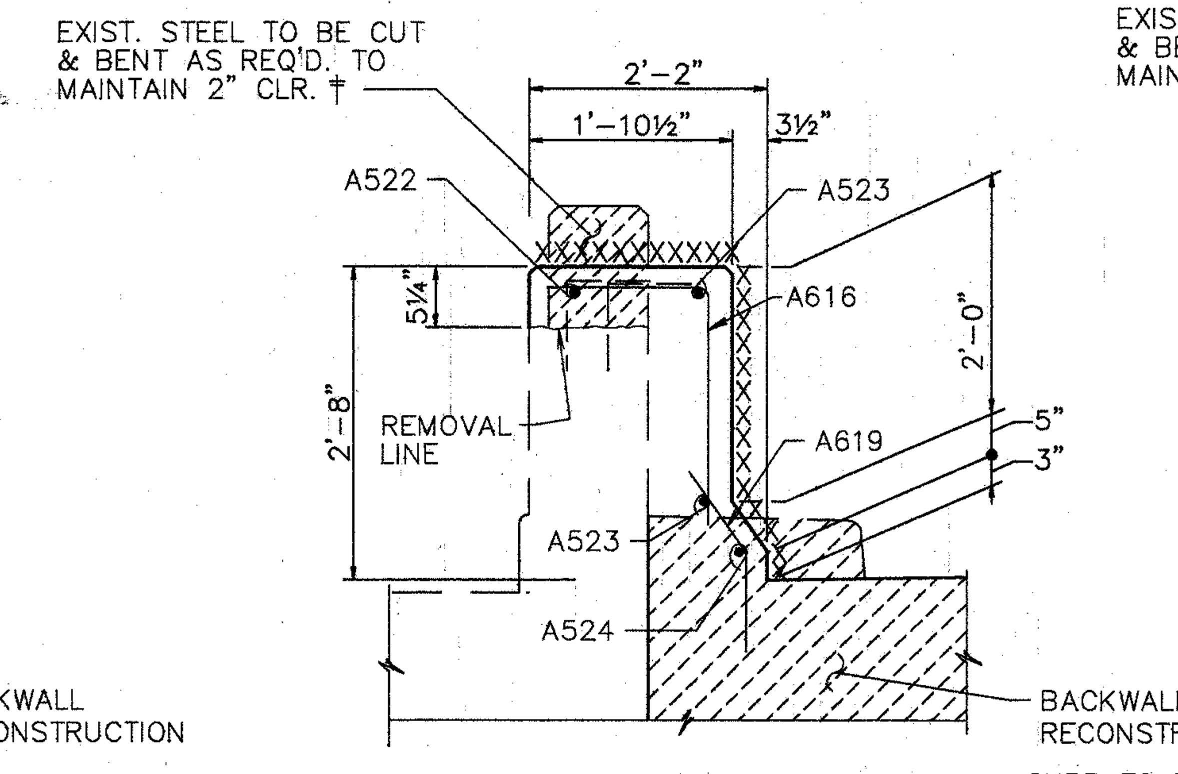


SECTION K-K

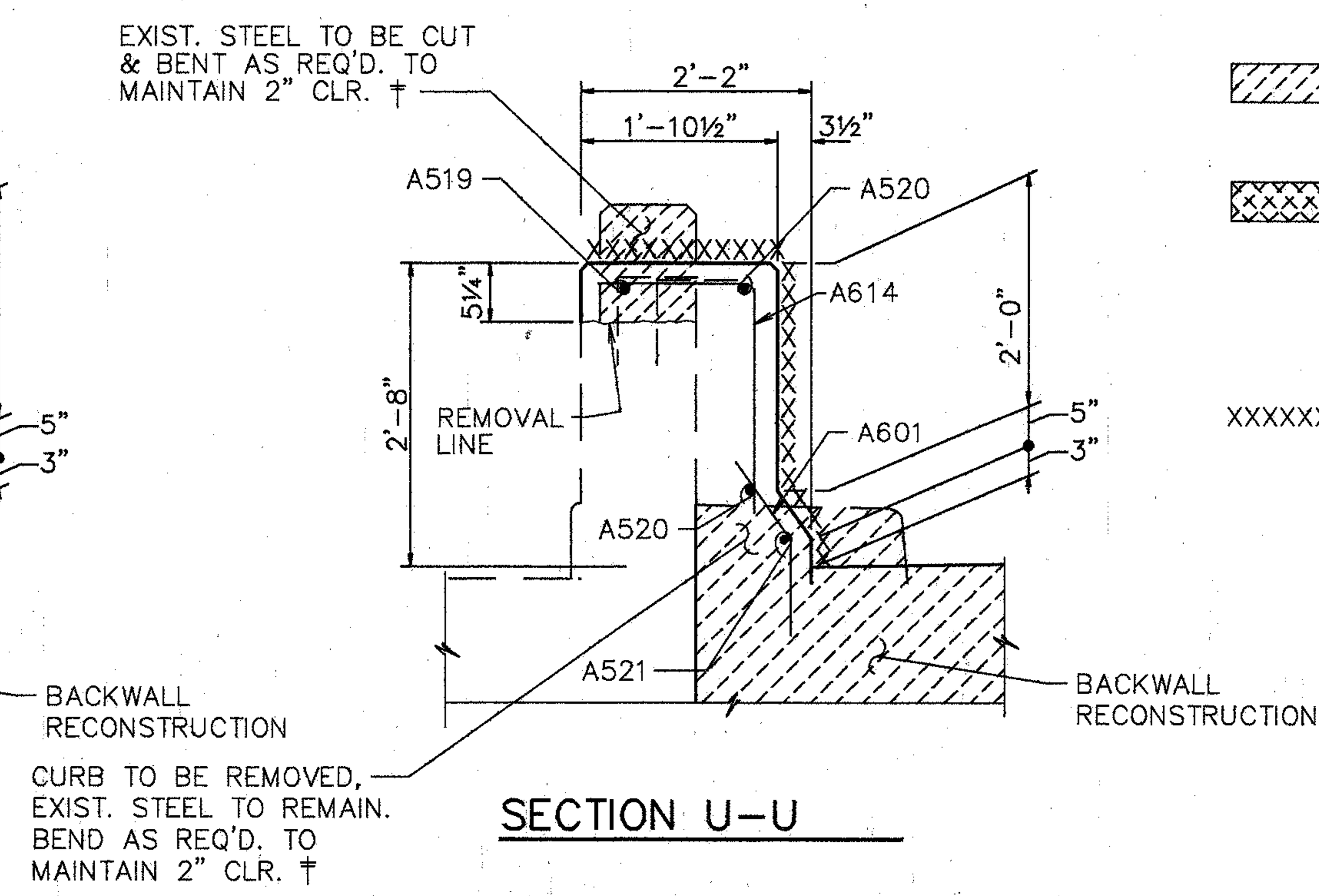
'V' VARIES 10" TO 5"
'W' VARIES 1'-7" TO 2'-0"
'X' VARIES 7" TO 3½"
'Y' VARIES 2" TO 0"
'Z' VARIES 1'-3" TO 1'-8½"



SECTION L-L



SECTION T-T



SECTION U-U

EXISTING CURB AND PARAPET TO BE REMOVED UNDER ITEM 202–PORTIONS OF STRUCTURES REMOVED.

EXISTING RAILING & POSTS TO BE REMOVED AND STACKED NEATLY ALONG THE RIGHT OF WAY FOR DISPOSAL BY THE CONTRACTOR. ALL WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202–PORTIONS OF STRUCTURE REMOVED.

XXXXXXX SURFACES TO BE SEALED UNDER ITEM SPECIAL–SEALING OF CONCRETE SURFACES.

† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONC. REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.

NOTES:

1. PREFORMED EXPANSION JOINT FILLER AND SEALER AT SIDES OF APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611, APPROACH SLAB.

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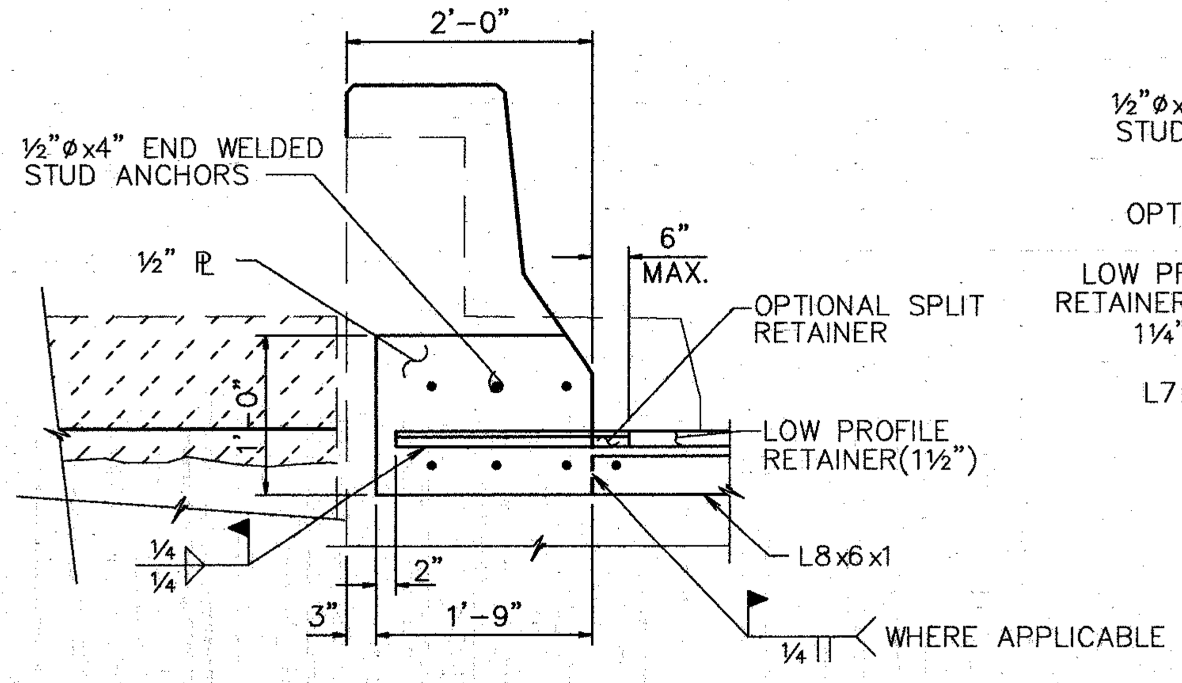
PARAPET SECTIONS

BRIDGE NO. HAM-71-0228 RAMP OVER I-71

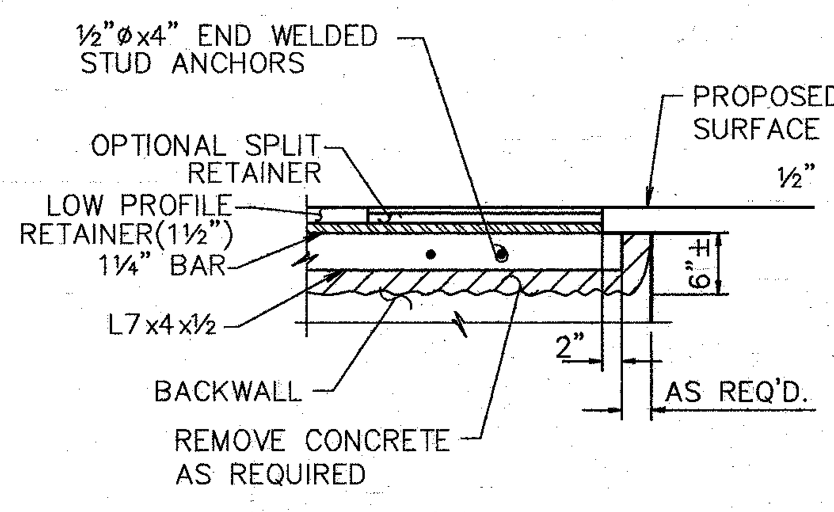
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	

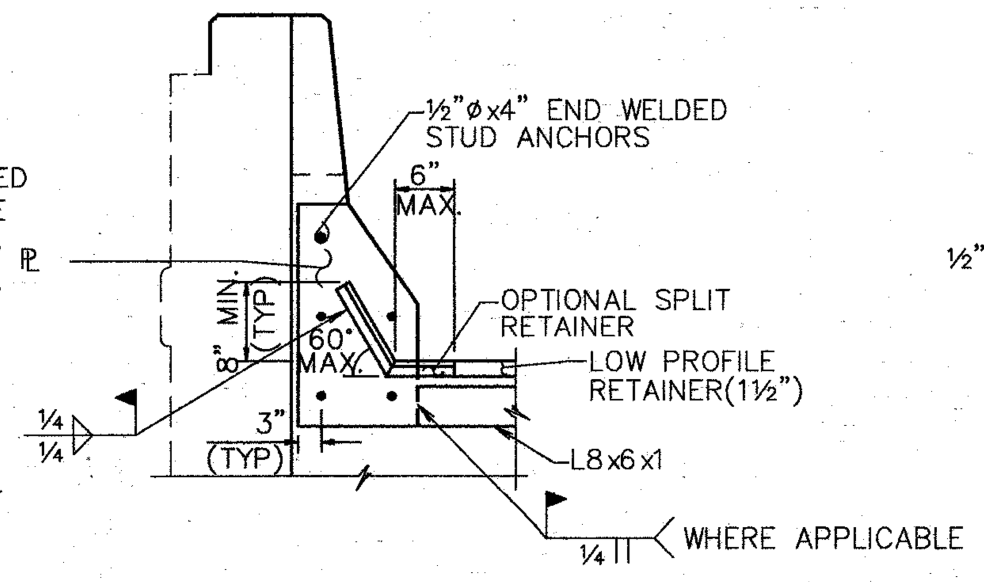
Last Plot: MAY 15, 1995 @ 7:30 PM Last Revision By: RACH MAY 18, 1994 @ 6:53 AM



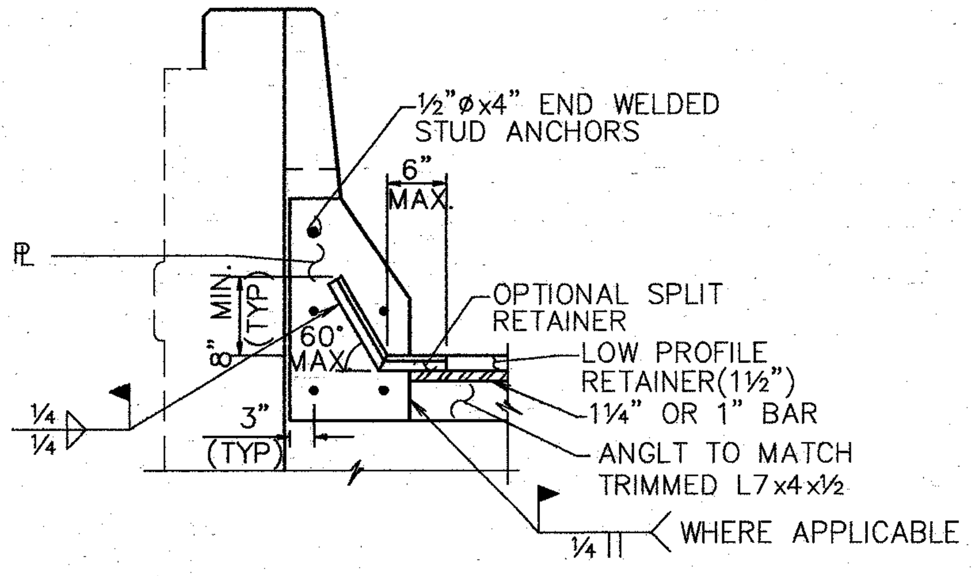
SECTION M-M



SECTION N-N



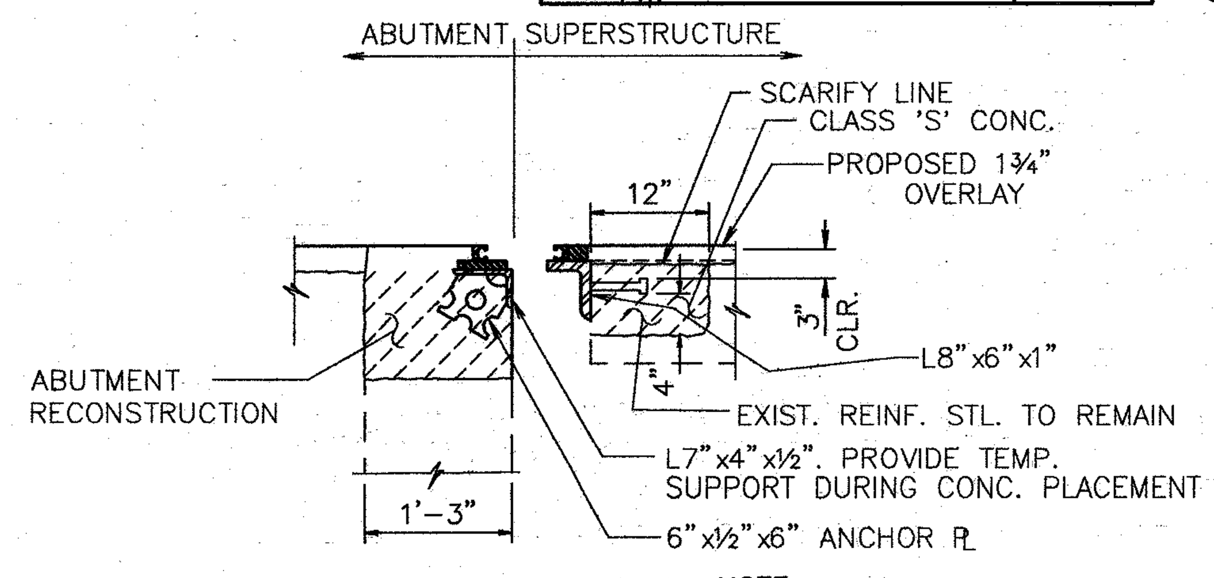
SECTION P-P



SECTION Q-Q

NOTE:

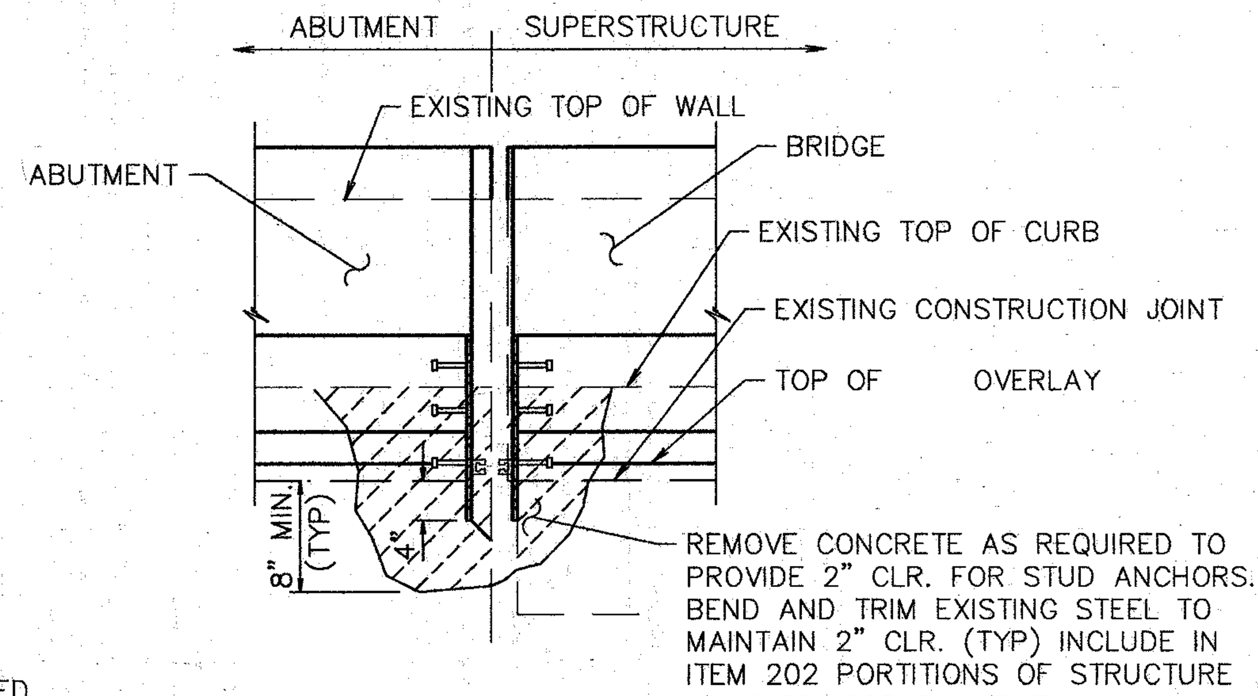
1. EXPANSION JT. DETAILS TO BE WORKED WITH STD. DWG. EXJ-4-87 SHTS. 1 thru 5.
2. WHEN PLATE IS RECESSED INTO ABUTMENT, CONCRETE BELOW PLATE SHALL BE SLOPED FROM BOTTOM OF THE PLATE TO THE END OF THE ABUTMENT TO DETER ACCUMULATION OF DEBIS.
3. CROSS SECTIONS VARY.



SECTION X-X

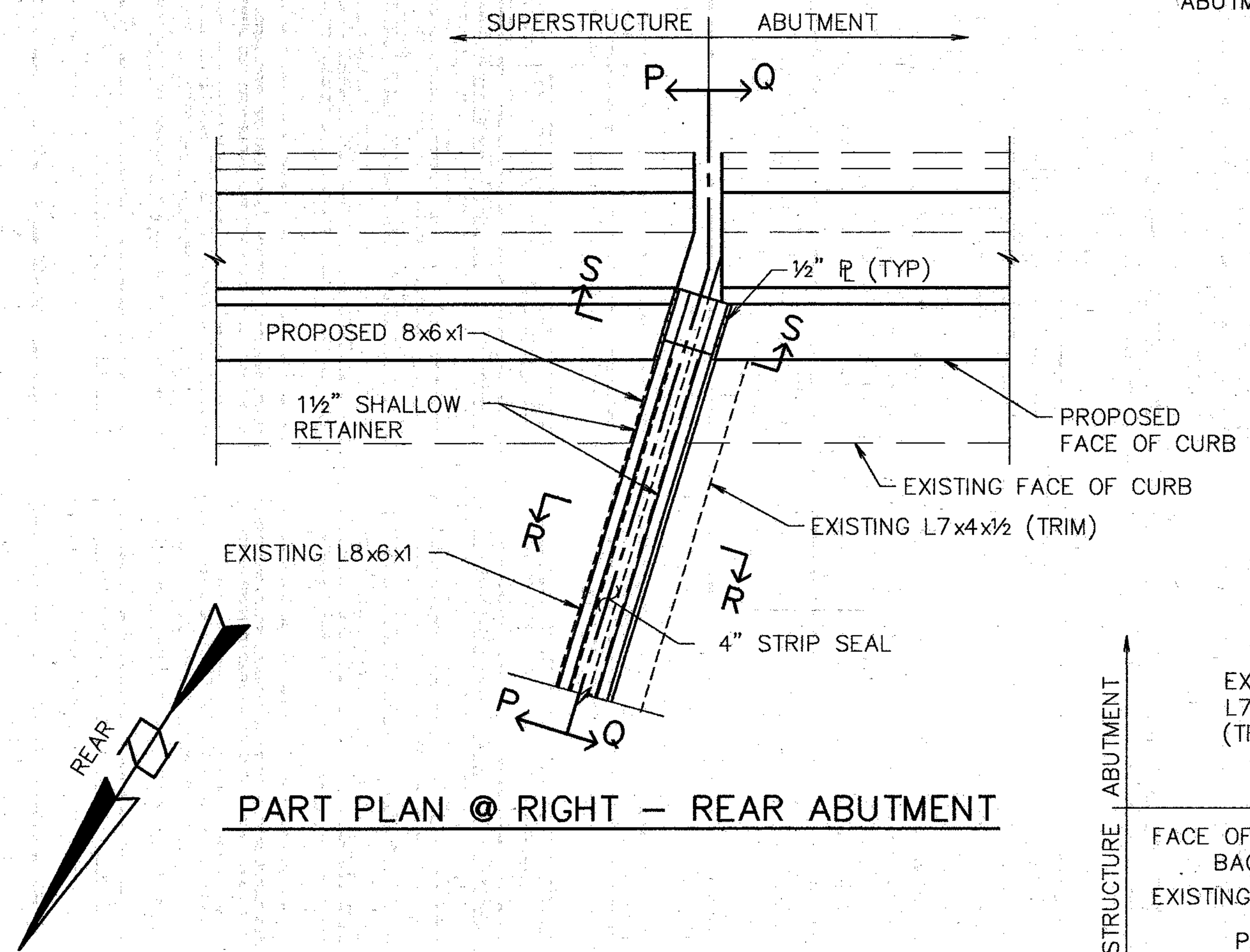
NOTE:

1. FOR DETAILS NOT SHOWN SEE STD. DWG. SD-1-69.
2. SEE SECTION R-R FOR RETAINER SPACING AND WELDING



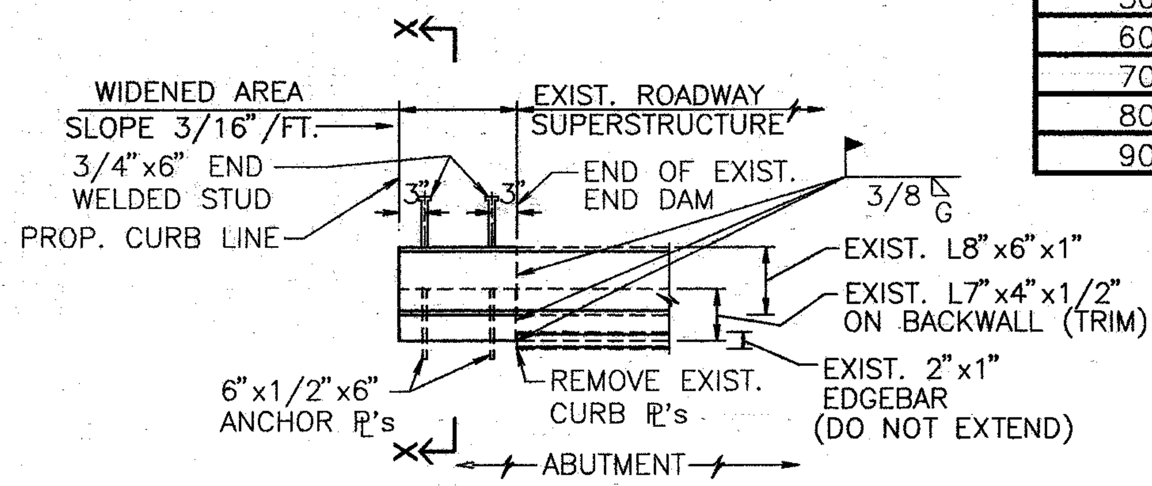
SECTION S-S

OPPOSITE HAND FOR LEFT FORWARD AND RIGHT REAR.



PART PLAN @ RIGHT – REAR ABUTMENT

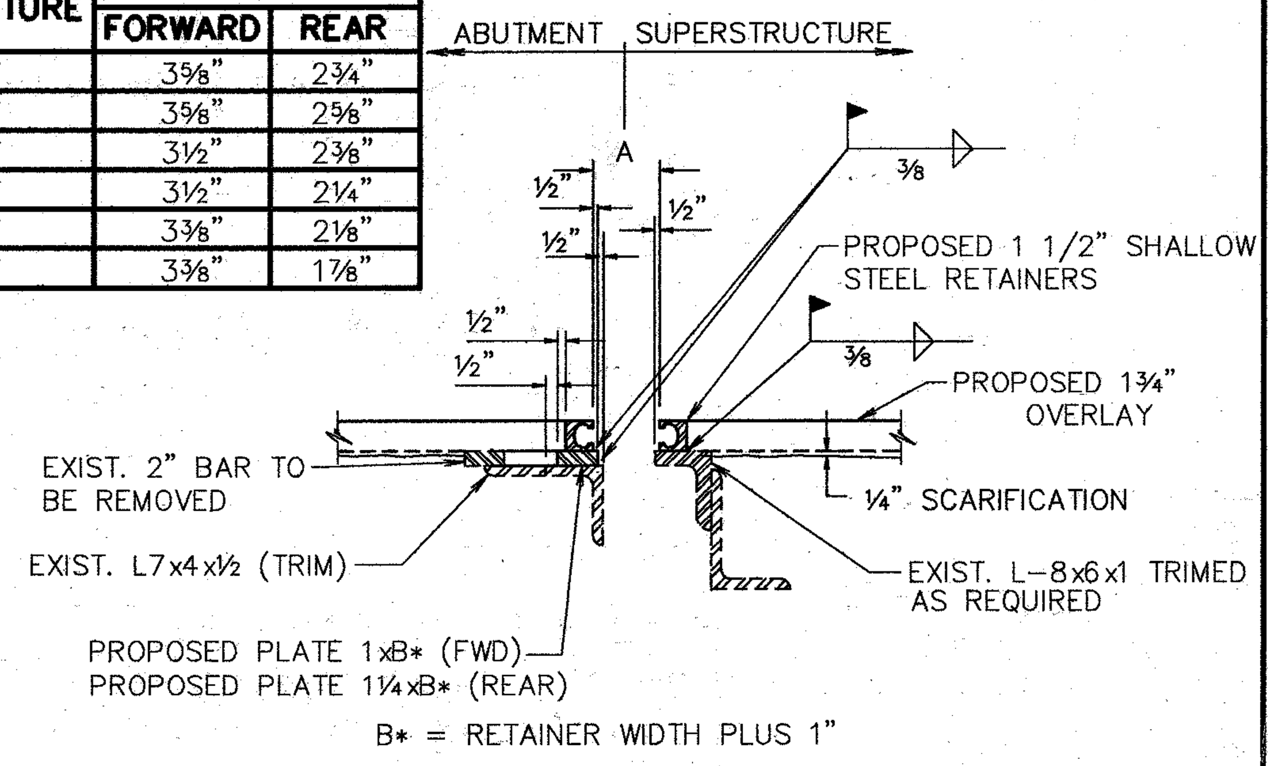
TEMPERATURE	DIM. 'A' FORWARD	DIM. 'A' REAR
40° F	3⅝"	2¾"
50° F	3⅝"	2⅝"
60° F	3½"	2⅜"
70° F	3½"	2¼"
80° F	3⅜"	2⅛"
90° F	3⅜"	1⅞"



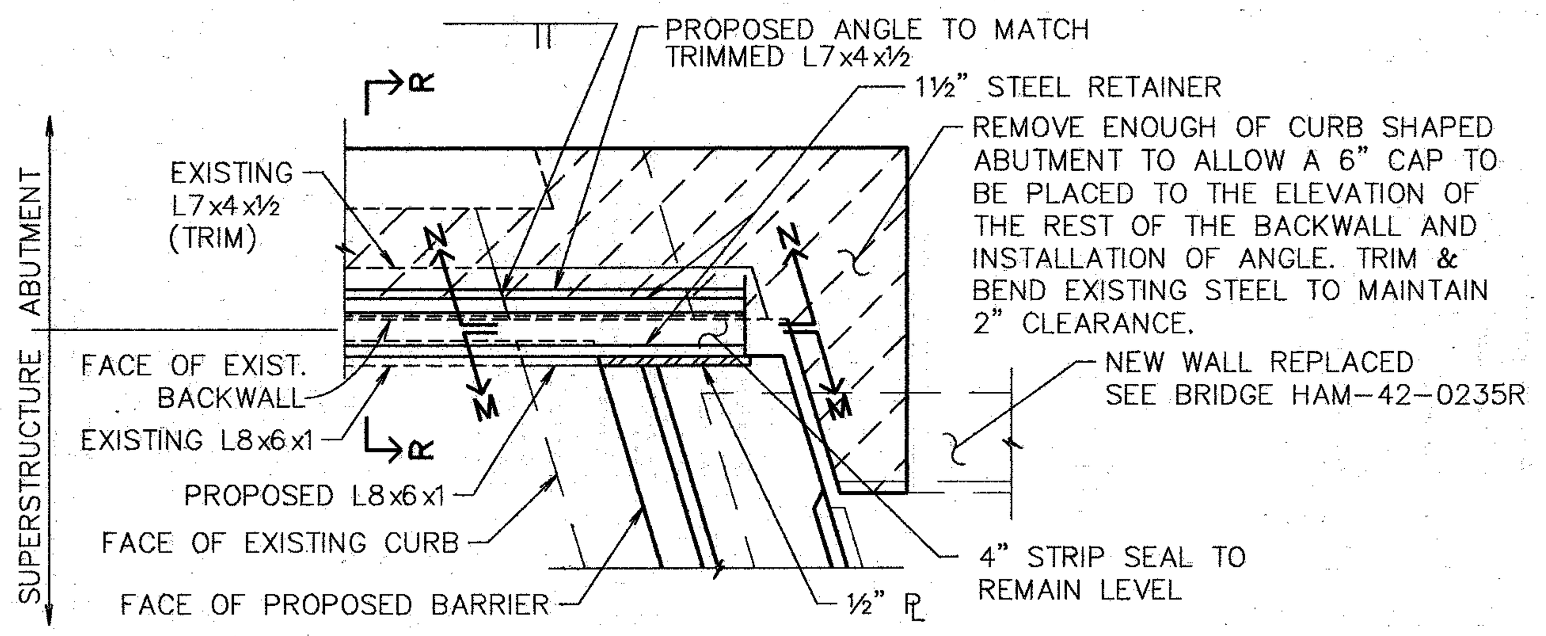
PLAN END DAM @ WIDENED AREAS (SKEW NOT SHOWN)

NOTES:

- END DAM WIDENING SHOWN IS FOR THE R.F. & L.R. CORNERS OF THE BRIDGE. THE L.F. & R.R. CORNERS ARE SIMILAR, BUT OPPOSITE HAND. (SKEW NOT SHOWN)
- FOR DETAILS & DIMS. NOT SHOWN SEE STD. DWG. SD-1-69.
- PROPOSED STRIP SEAL OMITTED FOR CLARITY



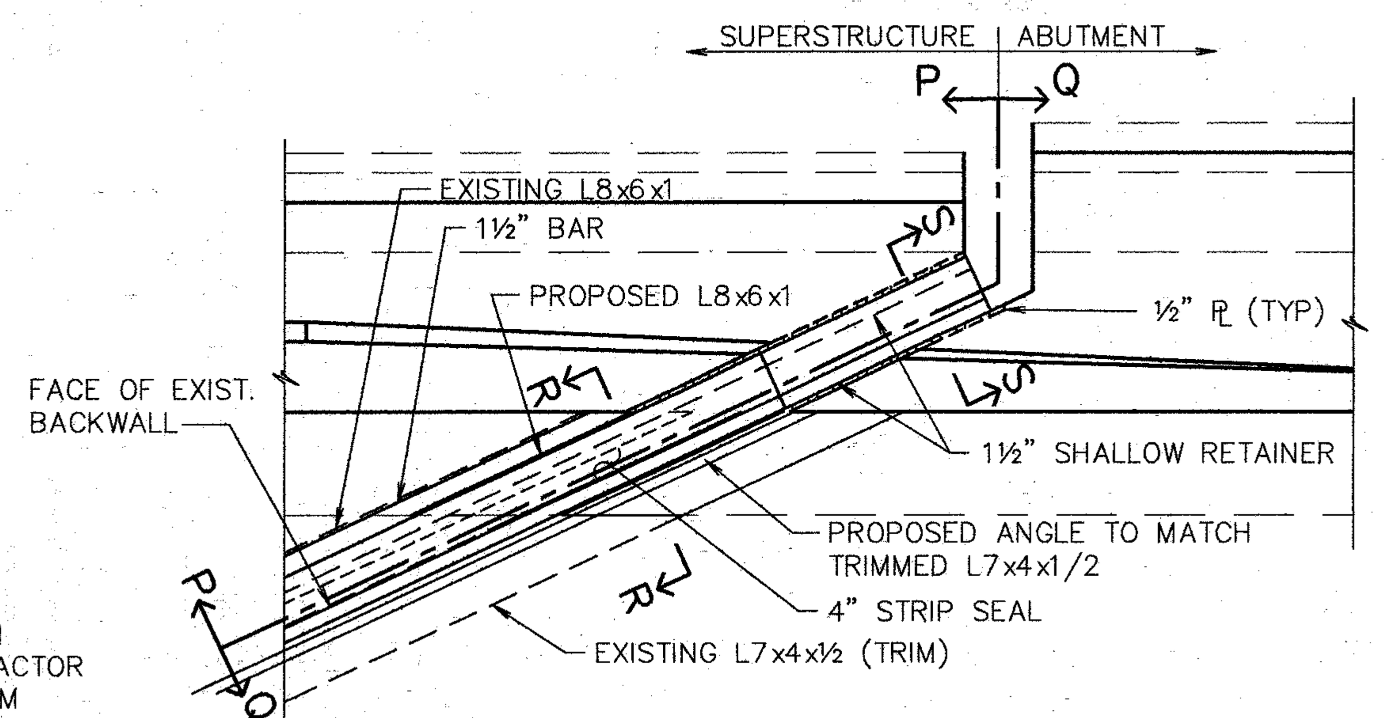
SECTION R-R



PART PLAN @ LEFT – REAR ABUTMENT

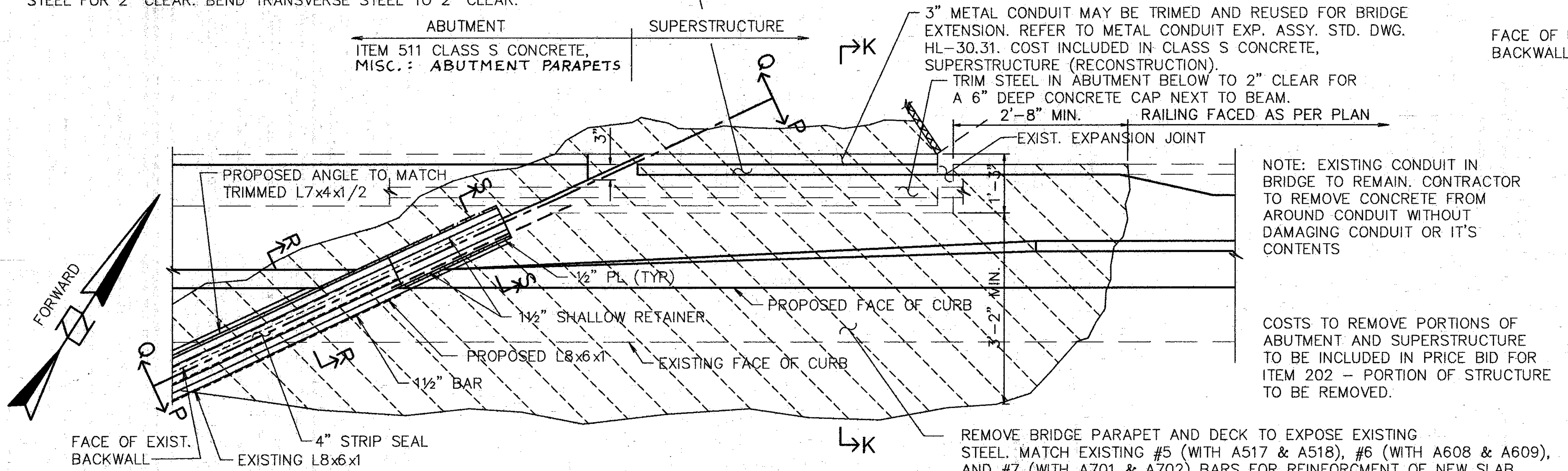
NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO MODIFYING THE EXPANSION JOINT.
2. THE PRICE BID FOR ITEM 516–'STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS', SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY OTHER INCIDENTIAL ITEMS, AS DETAILED. REMOVAL OF CURB OR PARAPET AS SHOWN SHALL BE INCLUDED UNDER ITEM 202–'PORTIONS OF STRUCTURE REMOVED.
3. FOR DETAILS NOT SHOWN REFER TO DRAWING EXJ-4-87 SHEETS 3 AND 4.
4. STRIP SEALS TO BE INSTALLED IN ONE CONTINUOUS PIECE (NO OPEN JOINTS).
5. PROVIDE TEMPORARY SUPPORT FOR ABUTMENT END DAM DURING CONSTRUCTION. REMOVE TEMPORARY SUPPORT AS SOON AS CONCRETE HAS SET, PREFERABLY WITHIN TWO HOURS AFTER PLACING TO AVOID DAMAGE DUE TO EXPANSION AND CONTRACTION OF SUPERSTRUCTURE.



PART PLAN @ LEFT – FORWARD ABUTMENT

REMOVE CONCRETE AS REQUIRED ON ABUTMENT TO AN ELEVATION THAT WILL CLEAR THE BOTTOM OF THE BRIDGE EXTENSION WHEN CAPPED AND 1'-0" BEHIND FACE OF BACKWALL. LONGITUDINAL STEEL IN PARAPET AND VERT./HORIZ. STEEL IN ABUTMENT TO REMAIN. TRIM EXISTING LONGITUDINAL STEEL FOR 2" CLEAR. BEND TRANSVERSE STEEL TO 2" CLEAR.



NOTE: EXISTING CONDUIT IN BRIDGE TO REMAIN. CONTRACTOR TO REMOVE CONCRETE FROM AROUND CONDUIT WITHOUT DAMAGING CONDUIT OR IT'S CONTENTS

COSTS TO REMOVE PORTIONS OF ABUTMENT AND SUPERSTRUCTURE TO BE INCLUDED IN PRICE BID FOR ITEM 202 – PORTION OF STRUCTURE TO BE REMOVED.

REMOVE BRIDGE PARAPET AND DECK TO EXPOSE EXISTING STEEL. MATCH EXISTING #5 (WITH A517 & A518), #6 (WITH A608 & A609), AND #7 (WITH A701 & A702) BARS FOR REINFORCMENT OF NEW SLAB. PLACE TO SCARIFIED LEVEL. LEAVE SURFACE ROUGH. CONCRETE AND REPLACEMENT WORK TO BE INCLUDED UNDER ITEM 511 CLASS S CONCRETE, SUPERSTRUCTURE (RECONSTRUCTION) FOR PAYMENT.

PART PLAN @ RIGHT – FORWARD ABUTMENT

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STRIP SEAL EXPANSION JOINTS AT ABUTMENTS

BRIDGE NO. HAM-71-0228 RAMP OVER I-71

HAMILTON COUNTY

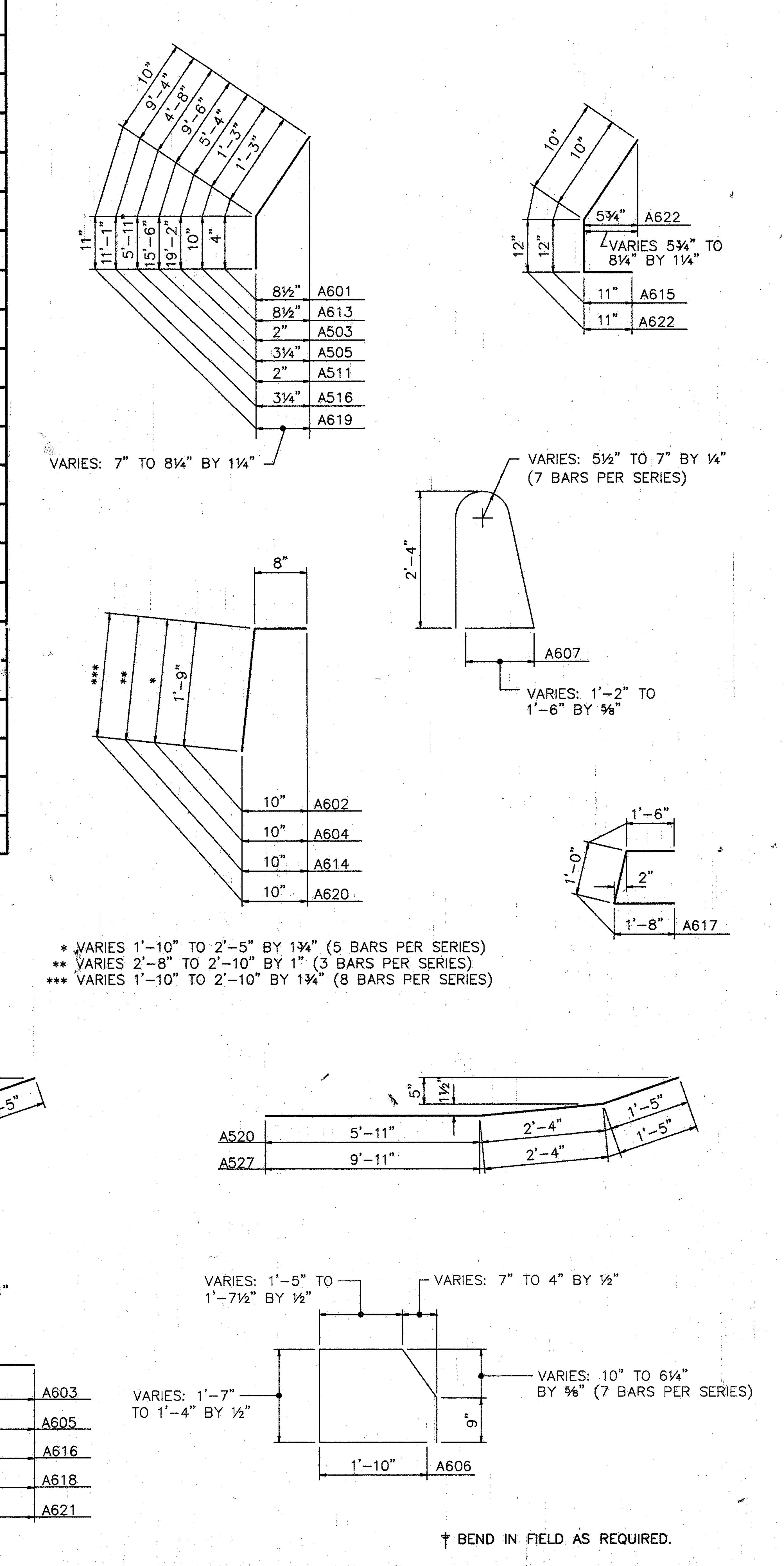
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	

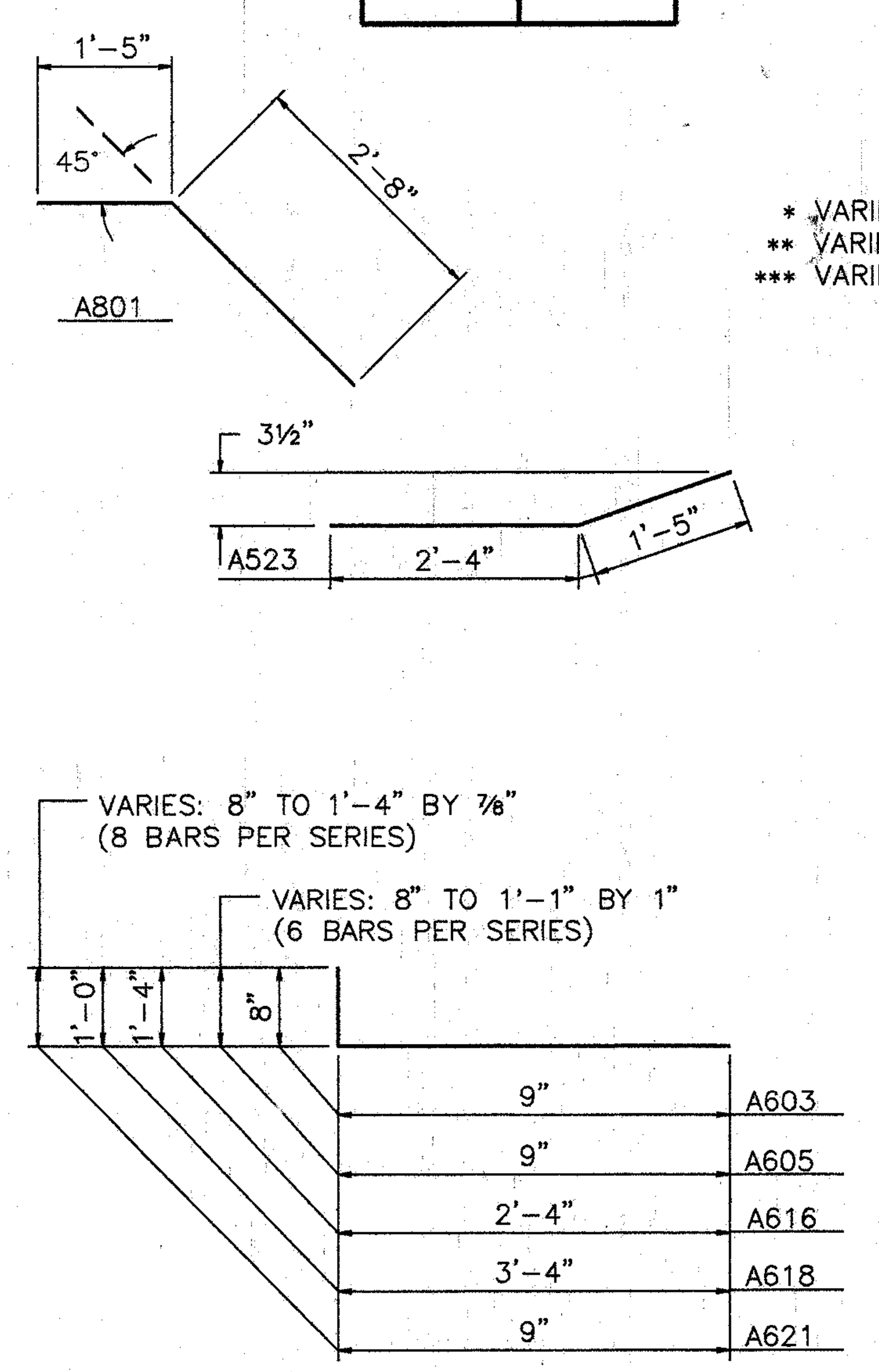
REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
PARAPETS				
A501	STR.	50	30'–0"	1565
A502	STR.	1	24'–6"	26
A503	BNT.	1	24'–6"	26
A504	STR.	1	25'–0"	26
A505	BNT.	1	25'–0"	26
A506	STR.	30	15'–8"	490
A507	STR.	27	15'–6"	437
A508	STR.	27	15'–0"	422
A509	STR.	3	13'–5"	42
A510	STR.	1	11'–5"	12
A511	BNT.	2	10'–7"	22
A512	STR.	27	15'–4"	432
A513	STR.	21	14'–10"	325
A514	STR.	3	12'–7"	39
A515	STR.	1	19'–7"	20
A516	BNT.	2	20'–5"	43
A517	STR.	2	6'–10"	14
A518	STR.	2	7'–9"	16
A519	STR.	1	8'–2"	9
A520	BNT.	2	9'–7"	20
A521	BNT.†	1	10'–1"	11
A522	STR.	1	4'–8"	5
A523	BNT.	2	3'–9"	8
A524	BNT.†	1	3'–8"	4
A525	STR.	1	5'–0"	5
A526	STR	1	11'–0"	11
A527	BNT.	2	13'–8"	29
A528	BNT.†	1	13'–8"	14
A529	STR.	4	11'–6"	48
A601	BNT.	648	1'–6"	1460
A602	BNT.	647	2'–5"	2349
A603	BNT.	647	1'–3"	1215
A604	BNT.	5	2'–6" TO 3'–1"	21
A605	BNT.	6	1'–3" TO 1'–7"	26
A606	BNT.	7	5'–11" TO 6'–6"	65
A607	BNT.	7	6'–2" TO 6'–5"	66
A608	STR.	3	7'–1"	32

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
PARAPETS				
A609	STR.	10	3'–11"	59
A610	STR.	3	1'–10"	8
A611	STR.	1	6'–3"	9
A612	STR.	5	10"	6
A613	BNT.	15	2'–0"	45
A614	BNT.	3	3'–4" TO 3'–6"	14
A615	BNT.	6	2'–6"	23
A616	BNT.	6	3'–6"	32
A617	BNT.	3	3'–10"	17
A618	BNT.	6	4'–2"	38
A619	BNT.	2	2'–6"	8
A620	STR.	8	2'–6" TO 3'–6"	36
A621	BNT.	8	1'–3" TO 1'–11"	19
A622	BNT.	1	2'–6"	4
A701	STR.	8	3'–11"	47
A702	STR.	2	4'–9"	14
A801	BNT.	42	4'–0"	449
REPLACEMENT STEEL				300
			TOTAL	10509

BENT BAR DETAILS





ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	L.S.	PORTIONS OF STRUCTURE REMOVED
509	15820	10509	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
510	12201	42	L.F.	DOWEL HOLES, AS PER PLAN.
511	34400	5	C.Y.	CLASS S CONCRETE, SUPERSTRUCTURE (RECONSTRUCTION)
511	34450	7	C.Y.	CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
511	45700	7	C.Y.	CLASS C CONCRETE, ABUTMENT RECONSTRUCTION
SPECIAL	51267500	850	S.Y.	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	271	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
513	21000	1	EACH	TRIMMING OF BEAM END
514	27704	LUMP	L.S.	FIELD PAINTING, MISC: EXISTING STEEL, EEU *
516	14600	10	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2"x4" SEALER, AS PER PLAN
516	11210	107	L.F.	STRUCTURAL EXP. JT., INCLUDING ELASTOMERIC STRIP SEAL
517	76201	745	L.F.	RAILING FACED, AS PER PLAN
516	45304	8	EACH	REFURBISH BEARING DEVICE
518	12700	1	EACH	SCUPPER, VERTICAL EXTENSION
518	12800	4	EACH	SCUPPER MODIFICATION
518	63300	LUMP SUM	L.S.	STRUCTURE DRAINAGE, MISC: MODIFY DRAINAGE PIPING
519	11100	2	S.F.	PATCHING CONCRETE STRUCTURE
845	40210	1275	S.Y.	LATEX MODIFIED CONCRETE MISC. OVERLAY (1¾" THICK) ON EXISTING DECK
845	11000	46	C.Y.	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)
845	30000	1	C.Y.	FULL DEPTH REPAIR
516	14600	50	L.F.	SEAL JOINT BETWEEN ABUTMENT AND CONCRETE SLOPE PROTECTION
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
601	21100	2	S.Y.	REPAIR CONCRETE SLOPE PROTECTION

* SEE PROPOSAL NOTE

1. MODIFY PARAPETS ON THE SUPERSTRUCTURE & ABUTMENTS. SEAL PARAPETS AS SHOWN ON PLANS. (INSTALL PLATES FOR STRIP SEAL EXP. JT.).
2. SCARIFY EXISTING DECK ¼", AND REMOVE DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER.
3. REFURBISH ALL ABUTMENT BEARINGS.
4. PLACE 1¾" THICK LATEX MODIFIED CONCRETE ON DECK.
5. RECONSTRUCT BACKWALLS ABOVE APPROACH SLAB SEAT.
6. SEAL EXPANSION JOINT WITH STRIP SEAL.
7. SEAL PARAPETS, BACKWALLS, AND PIERS.
8. REFURBISH DRAINAGE PIPING AND EXTEND SCUPPER.
9. TRIM BEAM ENDS.
10. REPLACE GUARDRAIL AND INSTALL HYDRO-CELL IMPACT BARRIER AS SHOWN ON ROADWAY PLANS.
11. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION AND ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTENANCE OF TRAFFIC PLANS. AT ALL TIMES. MAINTENANCE OF TRAFFIC PLAN REQUIRES CONSTRUCTION PHASING LIMITS AT LANE CENTERLINES. DUE TO THESE LIMITS, OVERLAY MAY REQUIRE SPECIAL ATTENTION.
12. OTHER WORK AS DESCRIBED IN THESE PLANS.

PROPOSED WORK

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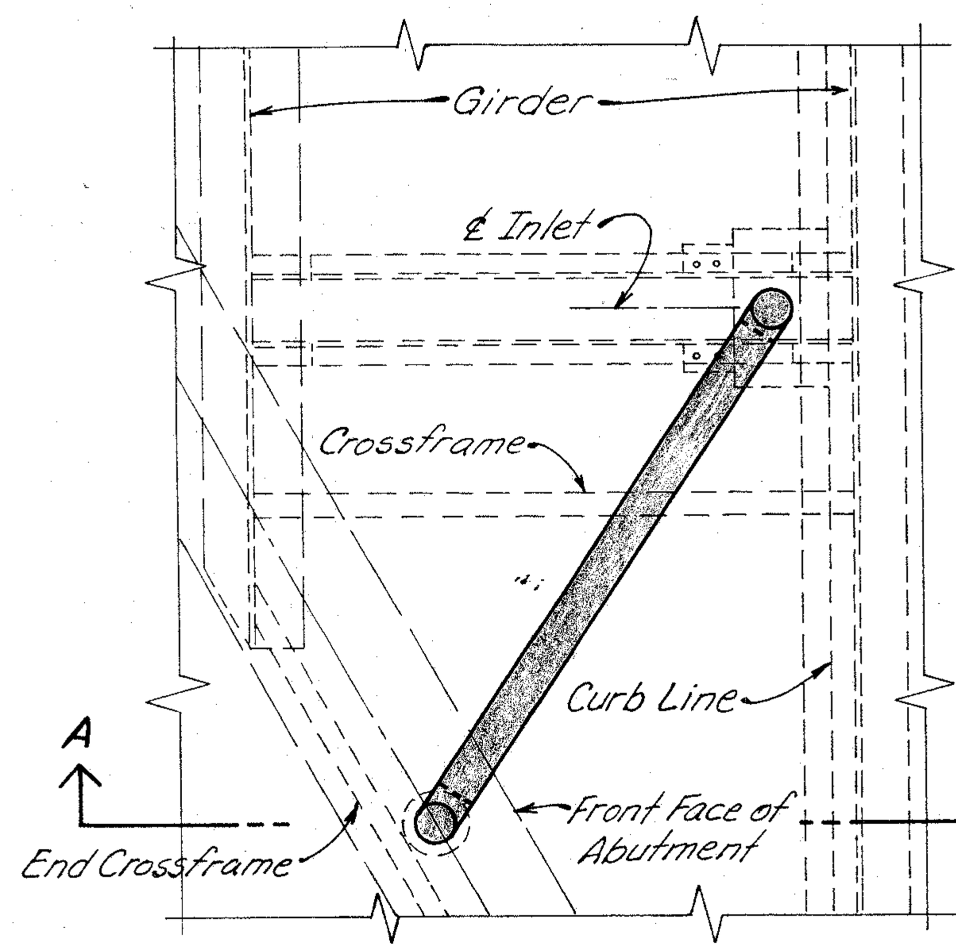
QUANTITIES AND GENERAL NOTES

BRIDGE NO. HAM-71-0228 RAMP OVER I-71

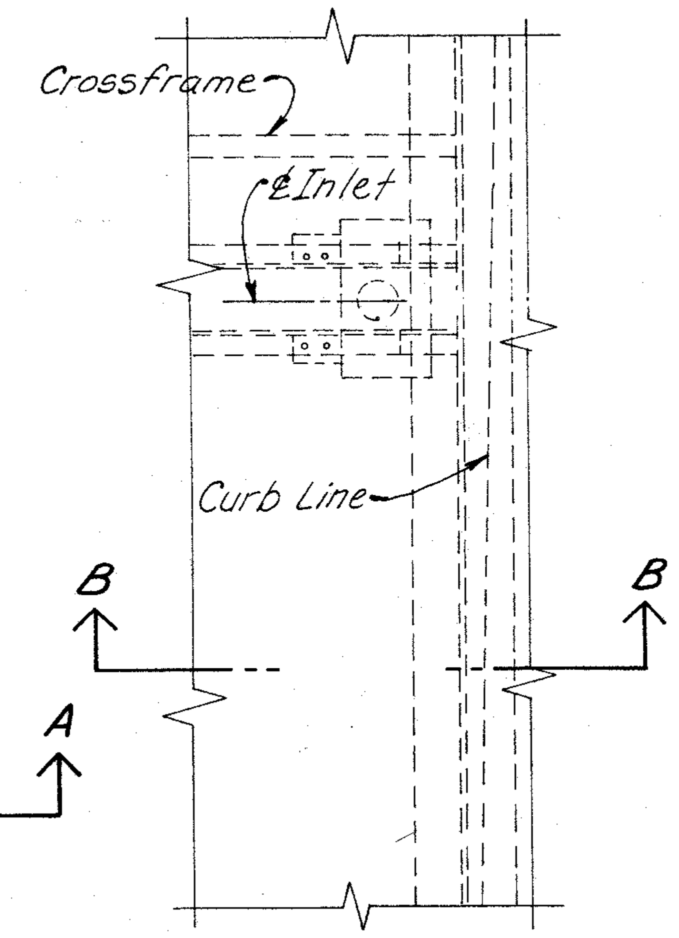
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM	11/11/94	

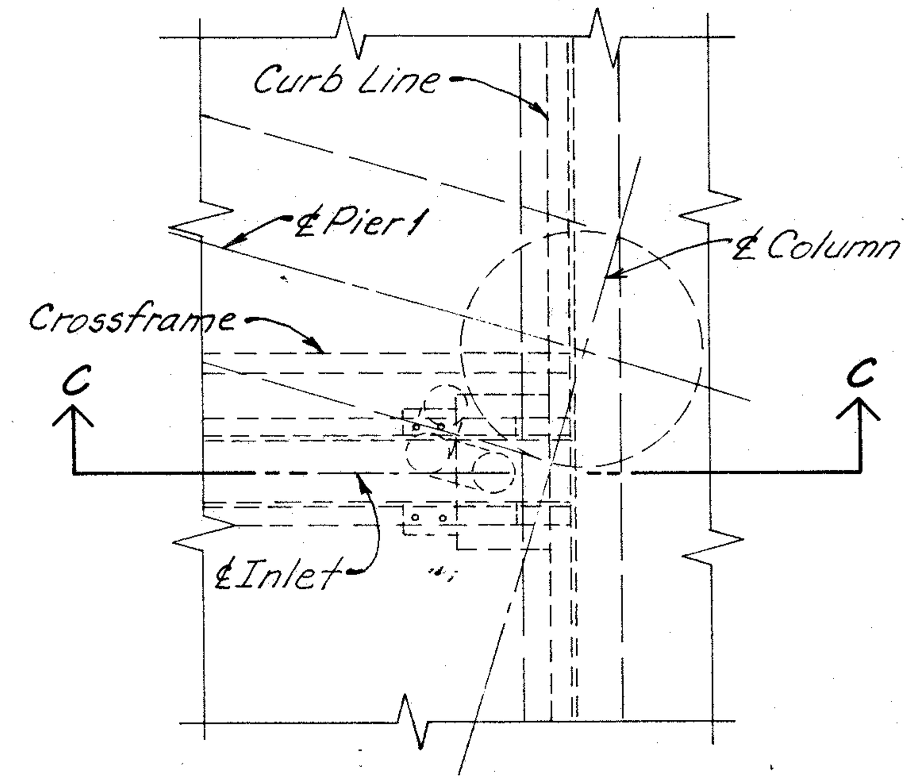
Last Plot: MAY 15, 1991 @ 7:35 PM Last Revision By: D.E.E. APR. 7, 1993 @ 7:37 AM



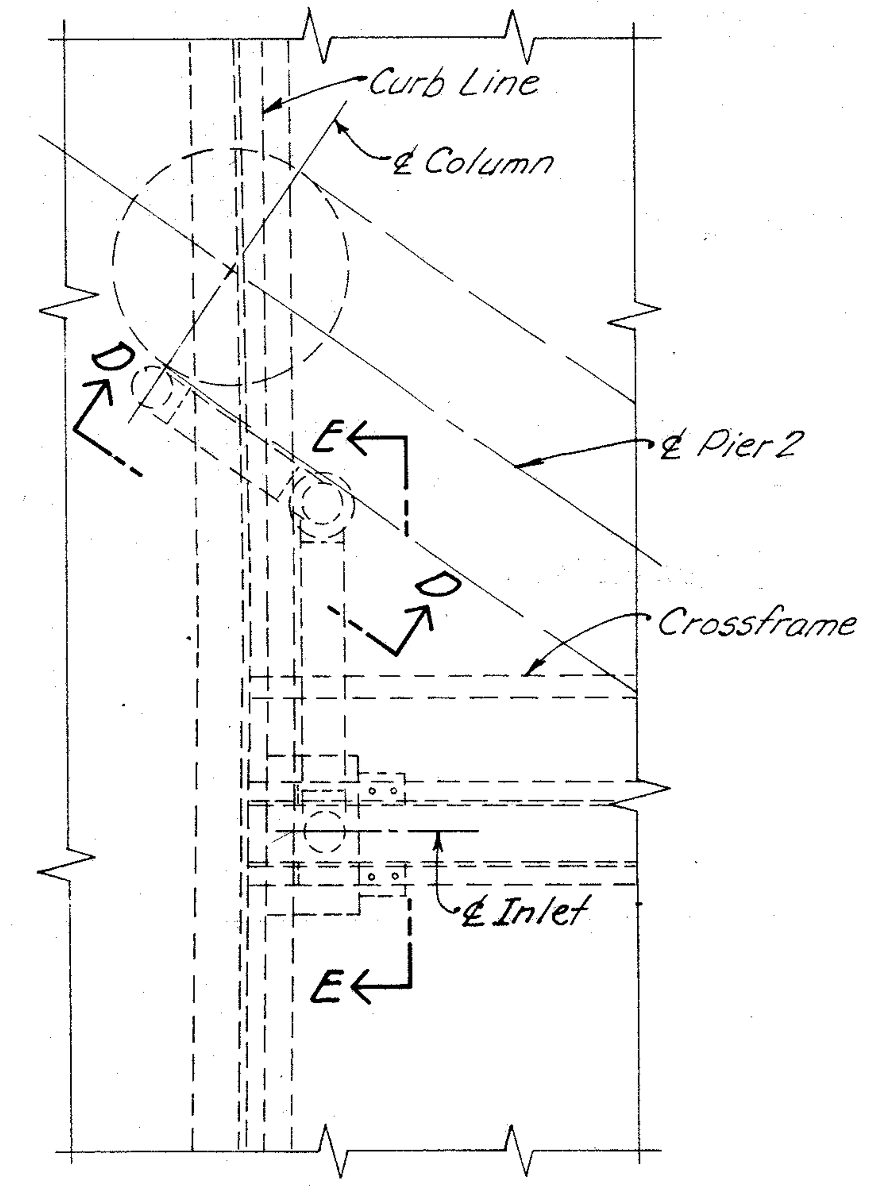
PLAN EAST ABUTMENT



PLAN
WEST ABUTMENT



PLAN PIER 1



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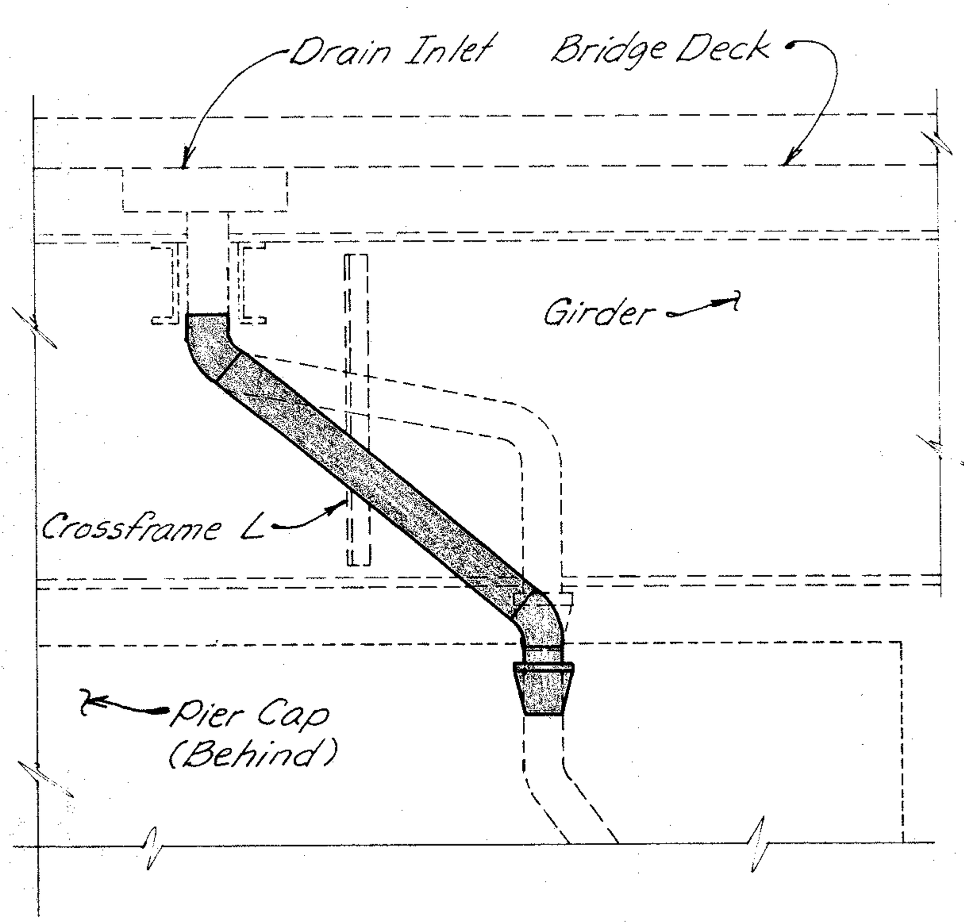
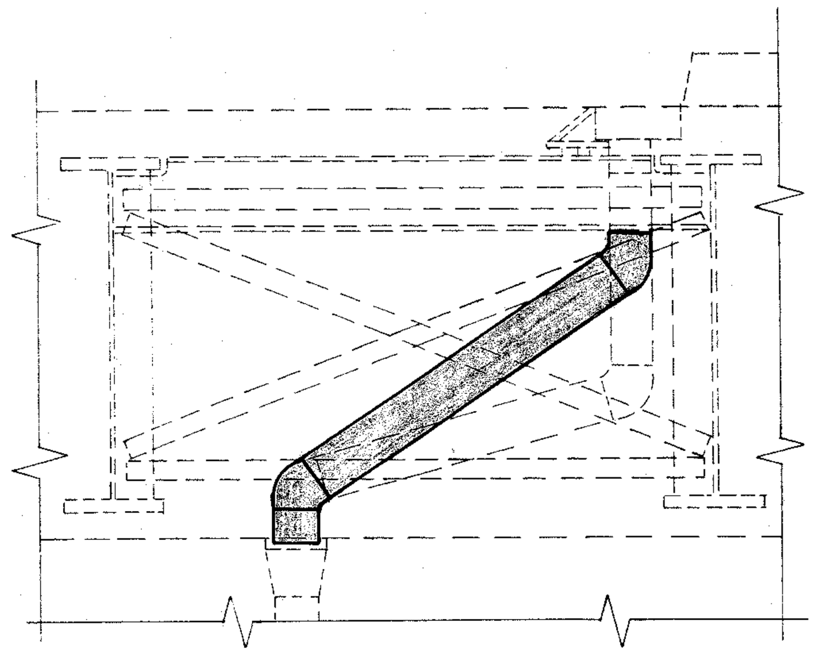
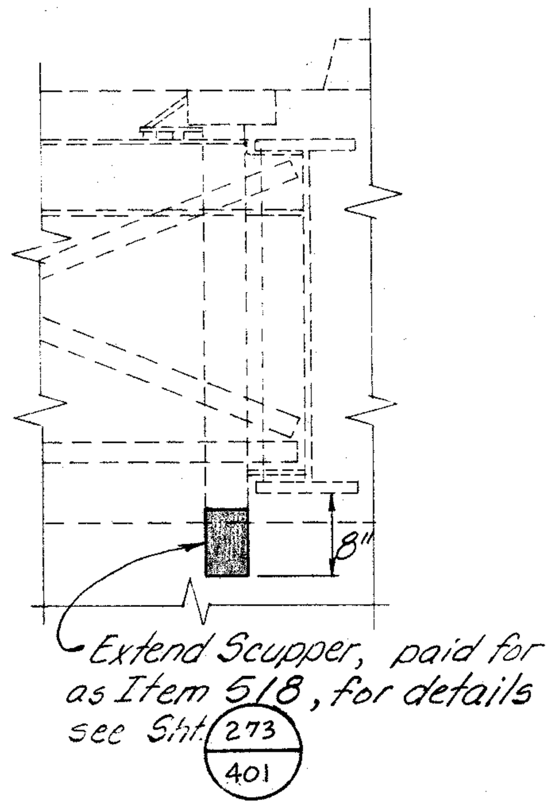


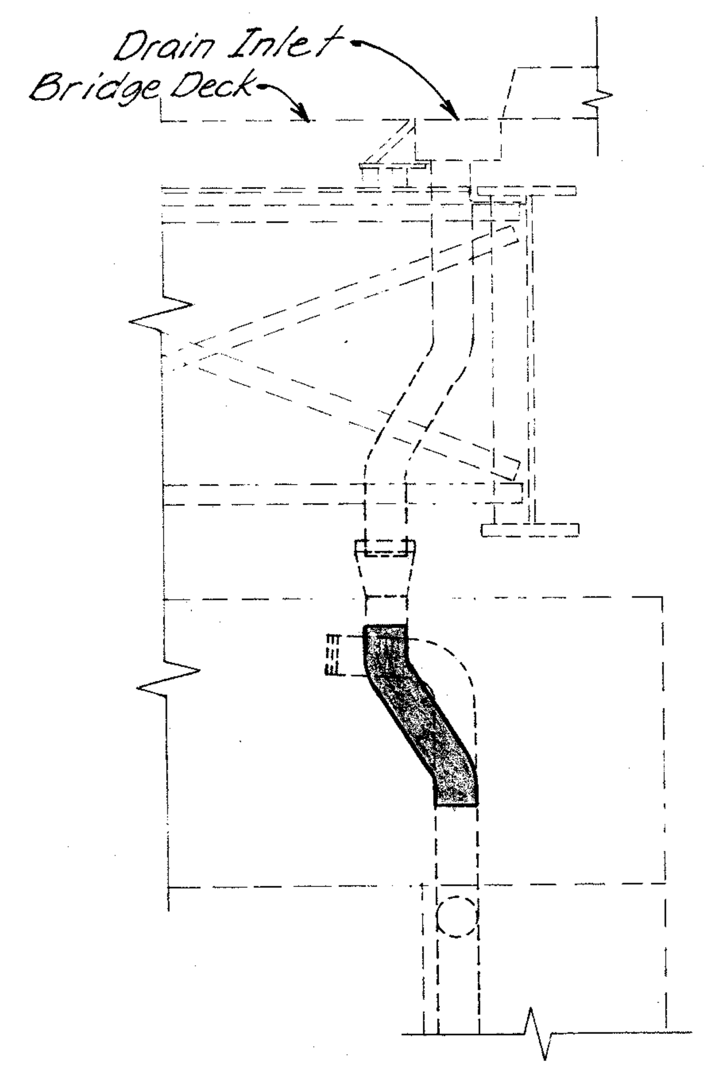
SECTION E-E



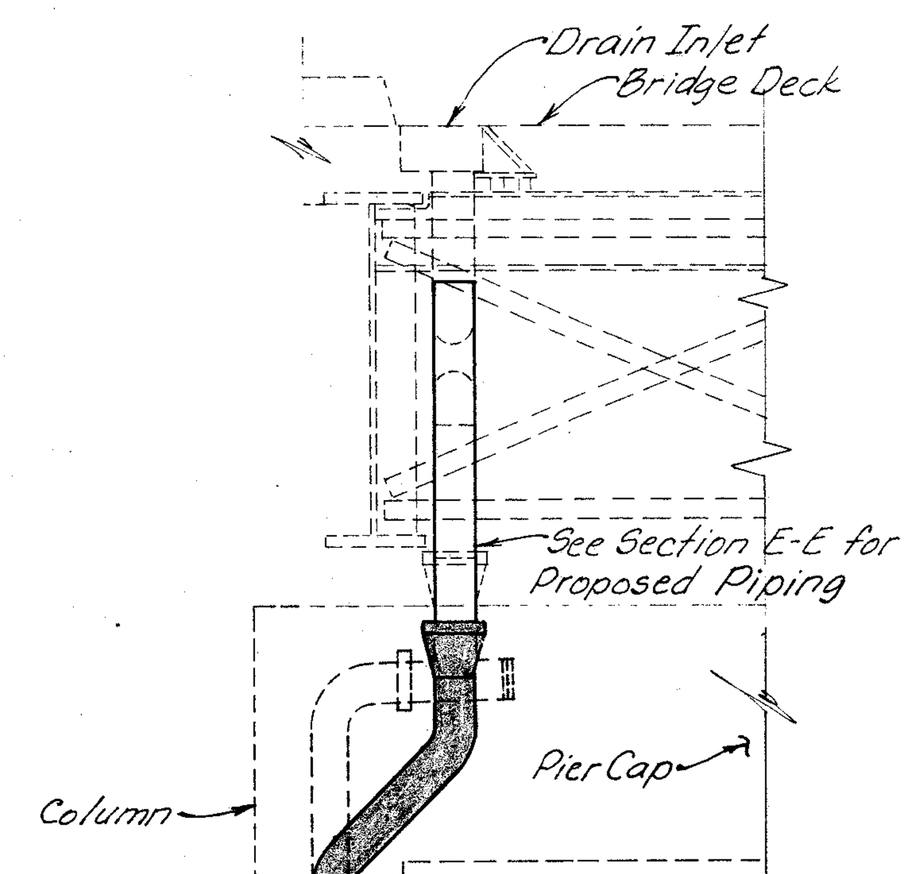
SECTION A-A



SECTION B-B



SECTION C-C



SECTION D-D

1. For Drainage piping requirements see General Notes on sht. 273/401

2. Approximate No. of Linear Feet of proposed 8"Ø pipe (including specials) = 35'

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DRAINAGE DETAILS

BRIDGE NO. HAM-71-0228
OVER I-71

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	L.A.P.		M.A.A.	D.E.M.	11/11/94	

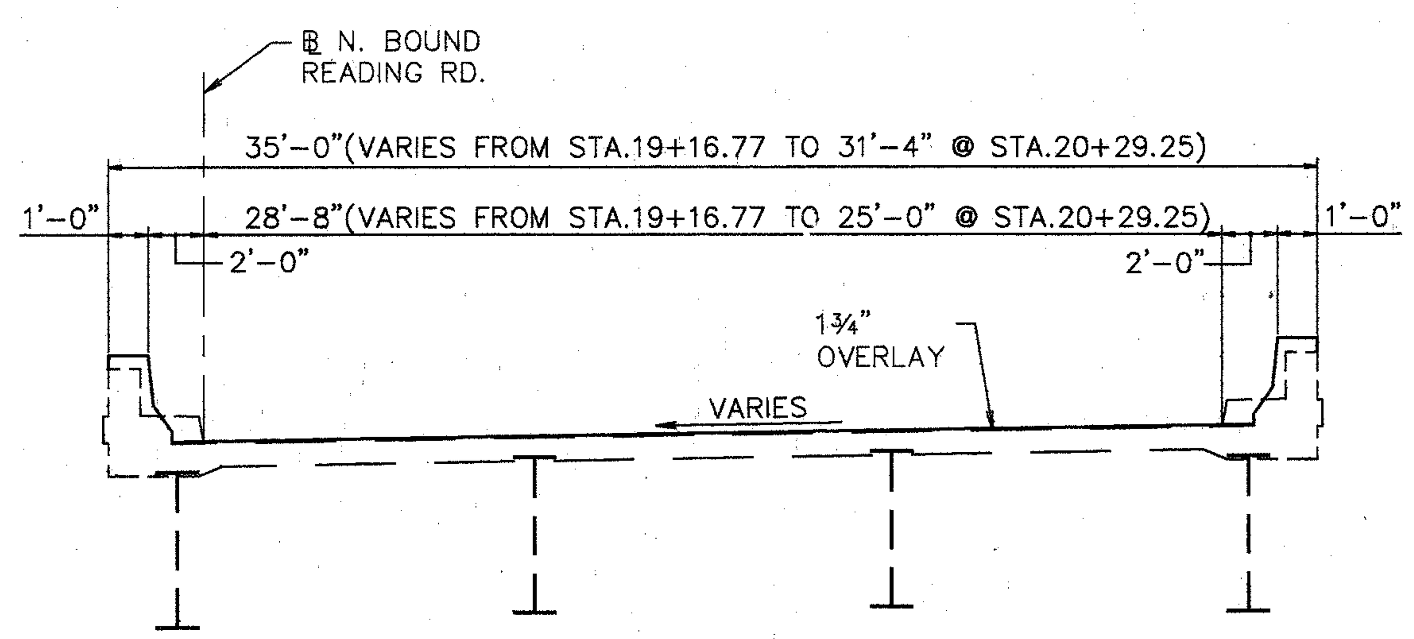
10-16592-03

PLAN

NOTES:

1. SEAL PARAPETS, BACKWALLS AND PIERS. SEAL ALL OF PIERS, EXCEPT TOP OF PIER CAPS.
2. REFURBISH DRAINAGE PIPING.
3. SEE JUNCTION BOX EXTENSION DETAIL GENERAL DTL. SHT. 273/401 FOR BARRIER RETROFIT AT JUNCTION BOXES. REFER TO LIGHTING DETAILS FOR TYPE & LOCATION.

SLIDING PLATE SIZE	JACK CAPACITY REQ'D. (MIN)
E200	150 TON
E150	100 TON



TYPICAL BRIDGE SECTION

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: 111.16', 142.62', 92.75', 91.00', C/C BRG. MEASURED ALONG ℄
ROADWAY: VARIES 25' TO 29' F/F CURBS WITH 2'-0" SAFTY CURBS
LOADING FREQUENCY: C.F.=2000 (57) ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: VARIES
SUPERELEVATION: VARIES

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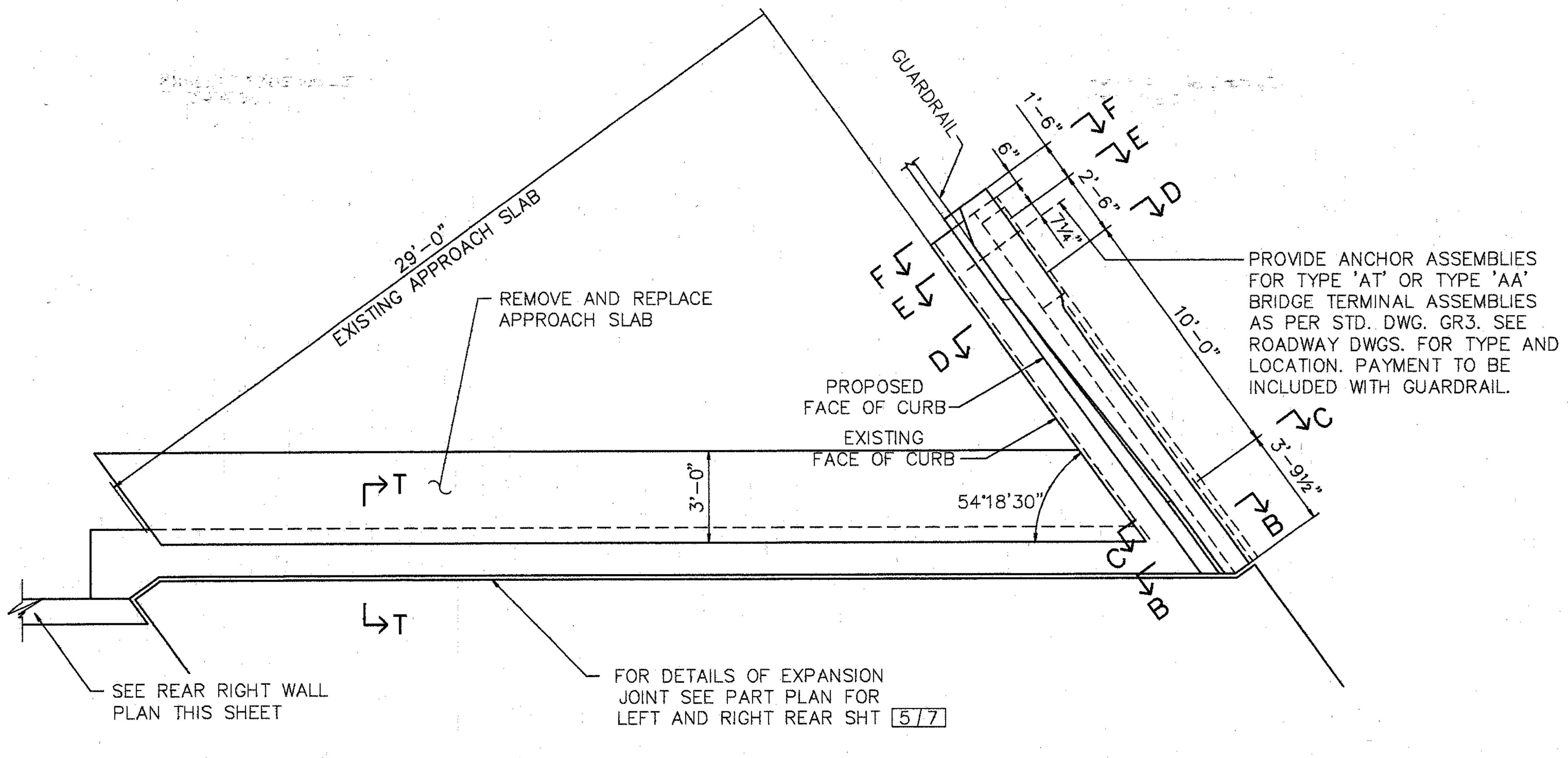
GENERAL PLAN

BRIDGE NO. HAM-42-0235 R (HAM-71-0229 L)
NORTHBOUND READING ROAD OVER SOUTHBOUND (I-71)
HAMILTON COUNTY

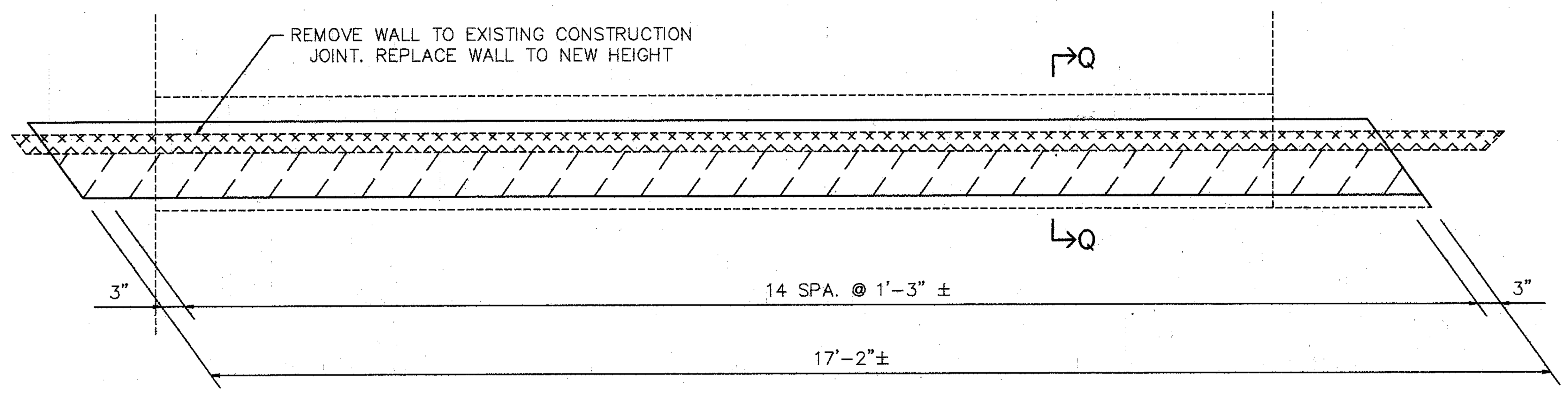
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	11/11/94	

Last Plot: MAY 15, 1991 @ 4:22 PM Last Revision By: D.E.E. APR. 13, 1993 @ 8:10 AM

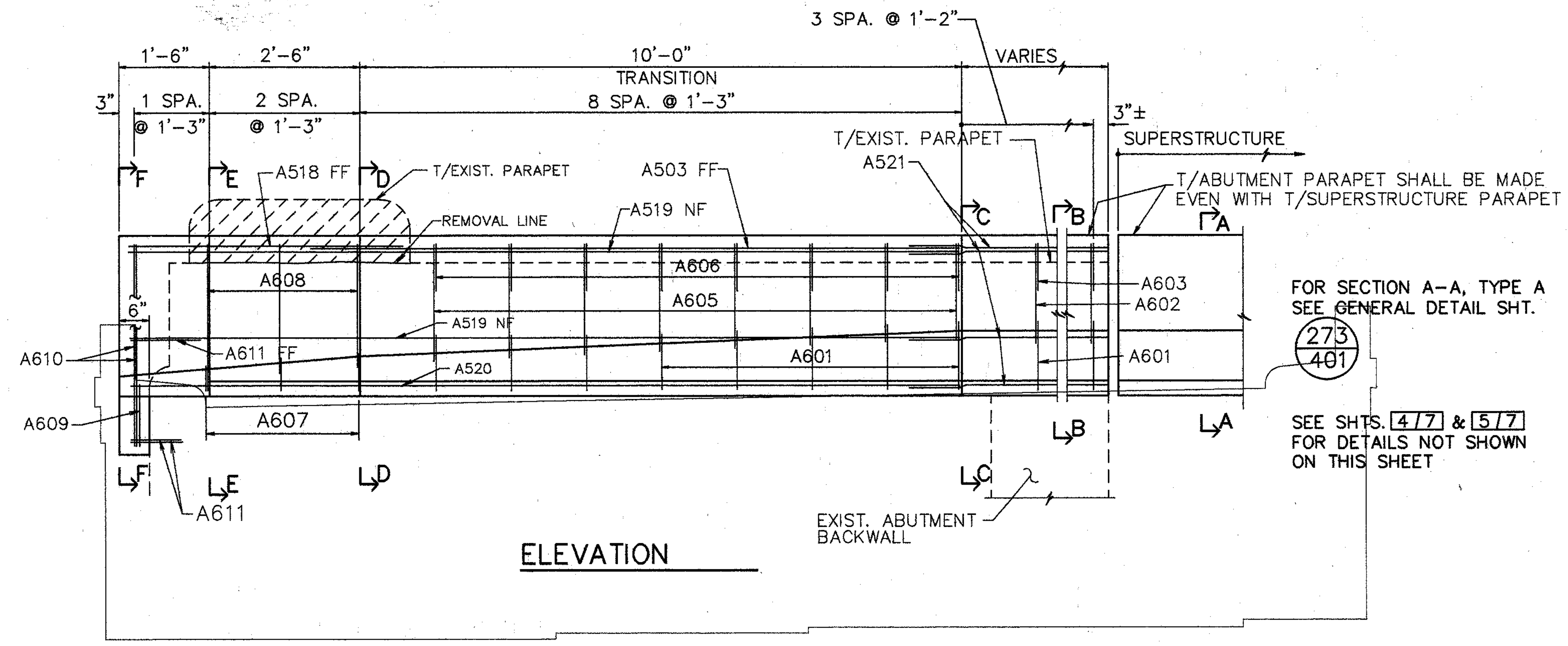

CALC. BY L.A.T.M. DATE
CHK'D BY D.E.M. DATE
HAM-71-1.30/9.00
OHIO
F.H.W.A. REGION 5
334
401
14'-6"
NEW APPROACH SLAB
12'-11"±
NEW APPROACH SLAB
2'-2"
1' WIDENING
EXISTING FACE OF CURB
PROPOSED FACE OF CURB
CONNECT 6" PERFORATED HELICAL PIPE INTO EXIST. 12" REINF. CONC. SEWER PIPE, INV EL. 613.60
REMOVAL LINE
6" PERFORATED HELICAL CORRUGATED STEEL PIPE
1' WIDENING
2'-2"
3" METAL CONDUIT
17'-10½"
9'-10½"
WORK BELOW CONSTRUCTION JOINT INCLUDED IN CLASS 'C' CONCRETE. WORK ABOVE CONSTRUCTION JOINT INCLUDED IN CLASS 'S' CONCRETE.
FOR DETAILS OF EXPANSION JOINT SEE PART PLAN @ LEFT AND RIGHT FORWARD ABUTMENT SHT. 5/7
10"
31'-0⅞"
PLAN-FORWARD ABUTMENT MODIFICATION
2"
1/3 T
CONSTRUCTION JT.
REINFORCING STEEL CONTINUES THRU JOINT.
℄ BEARING
1'-1½"
1'-3"
6"
1½" OFFSET
SEE DETAIL A THIS SHEET
A619
A525, A526, A527 (TYP)
A618
REMOVE EXISTING BACKWALL (COST TO BE INCLUDED WITH ITEM 202-'PORTIONS OF STRUCTURE REMOVED' FOR PAYMENT)
A616 EMBED NEW STEEL INTO EXISTING BREAST WALL (6" MIN) STAGGER SLIGHTLY WITH EXISTING. SEE GENERAL NOTE FOR ITEM 510 DOWEL HOLES AS PER PLAN.
GRADE
REMOVE (FRONT FACE) EXISTING STEEL BELOW CONSTRUCTION JOINT. GROUT HOLE. 2" MIN.
PROPOSED 6" PERFORATED HELICAL CORRUGATED STEEL PIPE
EXIST. POROUS BACKFILL
APPROACH SLAB TO BE FURNISHED BY OTHERS. SEE ROADWAY PLANS. REMOVAL COST INCLUDED IN ITEM 202, APPROACH SLAB REMOVED.
A801 SPA @ 1'-6"
ITEM 518-POROUS BACKFILL W/FILTER FABRIC FULL LENGTH OF ABUTMENT. SHALL EXTEND UP TO THE UNDERSIDE OF THE APPROACH SLAB OR TO THE FINISHED GROUND SURFACE.
ANGLED TO MEET GIVEN DIMENSIONS
2'-0"
PROPOSED LIMITS OF POROUS BACKFILL AND LIMIT FOR ITEM 503-'UNCLASSIFIED EXCAVATION'
* GEOTEXTILE FABRIC
EXISTING STEEL TO REMAIN BEND TO FOLLOW FACE OF WALL WITH 2" CLEARANCE (SEE GENERAL NOTES)
2'-6"~EXIST. VERT. STEEL (BACK FACE) TO REMAIN IF IN USABLE CONDITION
A617 EMBED NEW STEEL INTO EXISTING BREAST WALL (1'-6" MIN. EMBEDMENT) STAGGER SLIGHTLY WITH EXISTING. SEE GENERAL NOTE FOR ITEM 510 DOWEL HOLES AS PER PLAN.
NOTE: IN LIEU OF L4x4x½, CONTRACTOR MAY REUSE EXISTING ANGLE IF UNDAMAGED. REINF. STEEL DAMAGED AT NO FAULT OF CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED AND PAID FOR UNDER ITEM 509 -'EPOXY COATED REINFORCING STEEL, GRADE 60'.
* GEOTEXTILE FABRIC SHALL CONFORM TO 712.09 TYPE A AND BE INCLUDED WITH THE POROUS BACKFILL FOR PAYMENT.
SECTION R-R
SURFACE TO BE SEALED UNDER ITEM SPECIAL-SEALING OF CONCRETE SURFACES, EPOXY.
½"
1½"
3/16
PL 6x½x1'-0" @ 1'-6" SPA. WITH ONE PLATE WITHIN 6" OF EACH END OF ANGLE AT CONTRACTION JOINT
L4x3x½ COST TO BE INCLUDED WITH ITEM 516-'STRUCTURAL EXP. JT. INCLUDING ELASTOMERIC STRIP SEAL, FOR PAYMENT.
DETAIL A
SEE SECTION J-J, SHT. 5/7 FOR SUPERSTRUCTURE
EXISTING STEEL TO REMAIN.
A525, A526, OR A527
A528
A530 4'-6"
A529 2'-1½"
13 SPA. @ 1'-0"
10"
SECTION S-S
1'-0"
13'-6"
11'-11"
PHASE I CONSTRUCTION
1'-0"
9 SPA. @ 1'-6" ~ A801
8 SPA. @ 1'-6" ~ A801
11'-0"
2'-0"
TEMPORARY BARRIER
PROVIDE MECHANICAL CONNECTORS AT CONSTRUCTION JOINT
CONSTRUCTION JOINT SEE DETAILS THIS SHEET
APPROACH SLAB SEAT
CLASS "S" CONCRETE
EL. 626.40(NF)
EL. 627.04(NF)
14 SPA. @ 1'-0"
12 SPA. @ 1'-0"
11~A525 SPA. AS SHOWN
11~A526 SPA. AS SHOWN
11~A527 SPA. AS SHOWN
1% SLOPE (MIN)
EL. 619.64
EL. 619.81
EL. 619.39
EL. 620.03
CONNECT INTO EXIST. DRAINAGE SYSTEM
REMOVAL LINE FOR FIRST PHASE
6" MAX.
NOTE:
MECHANICAL CONNECTORS, SECT. 509.08 SHALL BE PROVIDED FOR A525 & A526 REINF. BARS LOCATED AT VERTICAL CONST. JT. WEIGHT TO BE INCLUDED IN REINF. BAR QUANTITIES FOR PAYMENT.
REMOVE EXISTING BACKWALL (INCLUDE COST WITH ITEM 202-'PORTIONS OF STRUCTURE REMOVED' FOR PAYMENT). LEAVE 2'-6" OF VERTICAL STEEL FF OF BACKWALL. (SEE GENERAL NOTE)
ELEVATION
1'-0"
2'-0"
A522-L
A523-R
7"
1'-3"
5¼"
A615
3" METAL CONDUIT (RF ONLY)
MATCH EXISTING
PROPOSED SURFACE
EXISTING SURFACE
A614
CONSTR. JT.
A530
EXISTING STEEL TO BE TRIMMED AND BENT TO MAINTAIN 2" CLEARANCES.
CONSTR. JT.
SECTION L-L
CLASS S CONCRETE SUPERSTRUCTURE AS PER PLAN
CLASS C CONCRETE ABUTMENT
1½" OFFSET
4'-6" MIN.
CONSTRUCTION JOINT
REMOVAL LINE
EL. 625.91 (R)
EL. 625.27 (L)
EL. 625.80 (R)
EL. 625.16 (L)
5-A528 @ EQ. SPACES E.F.
A529 E.F.
BRIDGE SEAT CONST. JT.
EL. 620.03 (R)
EL. 619.39 (L)
EMBEDDED STEEL TO REMAIN. TRIM, BEND, OR REPLACE AS REQUIRED.
WINGWALL ELEVATION
RIGHT AS SHOWN, LEFT OPPOSITE HAND
SEE NOTES ON SHEET 3/7
ADDITIONAL SECTIONS ON SHEETS 4/7
WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
9513) 461-5660
2/7
FORWARD ABUTMENT
BRIDGE NO. HAM-42-0235 R (HAM-71-0229 L)
NORTHBOUND READING ROAD OVER SOUTHBOUND (I-71)
HAMILTON COUNTY
DESIGNED L.A.T.M.
DRAWN D.E.E.
TRACED
CHECKED M.A.A.
REVIEWED D.E.M.
DATE 11/11/94
REVISED



PLAN-REAR ABUTMENT MODIFICATION



REAR RIGHT WALL PLAN



ELEVATION

NOTES:

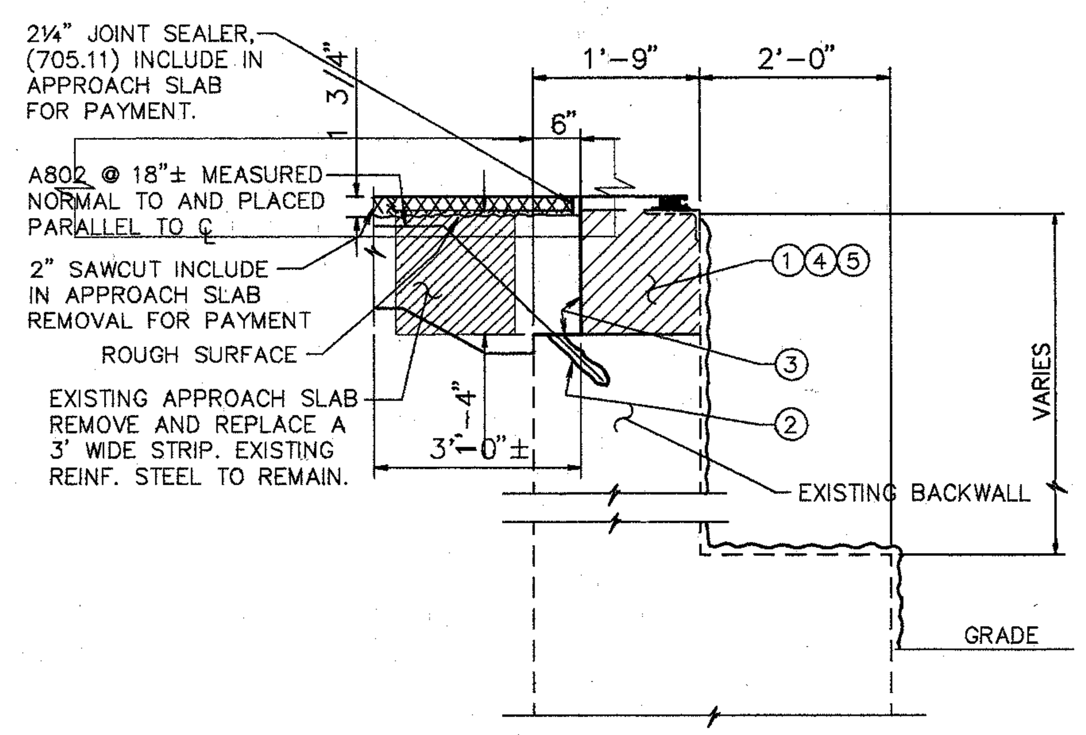
L DENOTES LEFT SIDE
R DENOTES RIGHT SIDE
RF DENOTES RIGHT FORWARD
LF DENOTES LEFT FORWARD
RR DENOTES RIGHT REAR
LR DENOTES LEFT REAR
NF DENOTES NEAR FACE
FF DENOTES FAR FACE

NOTES FOR SECTION T-T

1. EXISTING REINFORCING STEEL TO REMAIN ~ REINFORCING STEEL DAMAGED TO BE REPLACED AT CONTRACTORS EXPENSE.
2. 1' MIN. EMBEDMENT (SEE DOWEL HOLE GENERAL NOTE) ITEM 510.
3. TYPE 'A' WATERPROOFING (PAYMENT INCLUDED IN THE PRICE BID FOR APPROACH SLAB).
4. CLASS 'C' CONCRETE, ABUTMENT RECONSTRUCTION.
5. PROVIDE CONTRACTION AND EXPANSION JOINTS TO MATCH THOSE IN EXISTING BACKWALL AND PROVIDE CONSTRUCTION JOINTS AS REQUIRED TO MAINTAIN TRAFFIC. PAYMENT TO BE INCLUDED IN PRICE BID FOR ITEM 511 CLASS C CONCRETE RECONSTRUCTION.

EXISTING CONCRETE TO BE REMOVED INCLUDE IN ITEM 202 FOR PAYMENT.

SURFACE TO BE SEALED UNDER ITEM SPECIAL- 'SEALING OF CONCRETE SURFACE, EPOXY'.



SECTION T-T

EXIST. CURB & PARAPET TO BE REMOVED UNDER ITEM 202-'PORTIONS OF STRUCTURES REMOVED'.

EXIST. RAILING & POSTS TO BE REMOVED & STACKED NEATLY ALONG THE RIGHT-OF-WAY FOR DISPOSAL BY THE CONTRACTOR. ALL WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202-'PORTIONS OF STRUCTURE REMOVED'.

XXXXXX SURFACES TO BE SEALED UNDER ITEM SPECIAL-'SEALING OF CONCRETE SURFACES.

NOTES:

1. PREFORMED EXPANSION JT. FILLER & SEALER AT CORNERS AND SIDES OF THE APP. SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YD. FOR THE APPR. SLAB.

ADDITIONAL SECTIONS ON SHEET 4/7

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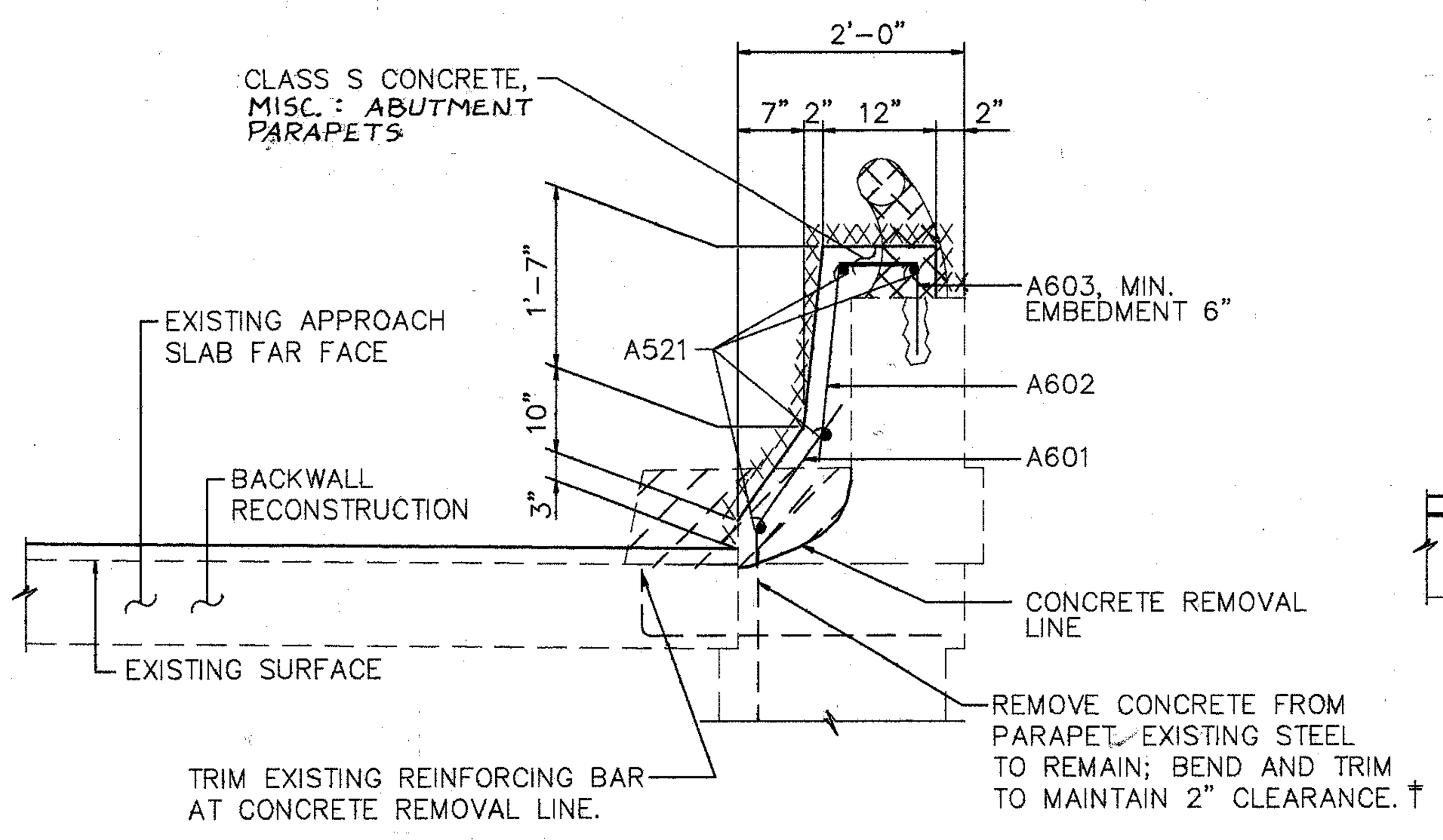
REAR ABUTMENT & PARAPET ELEVATIONS

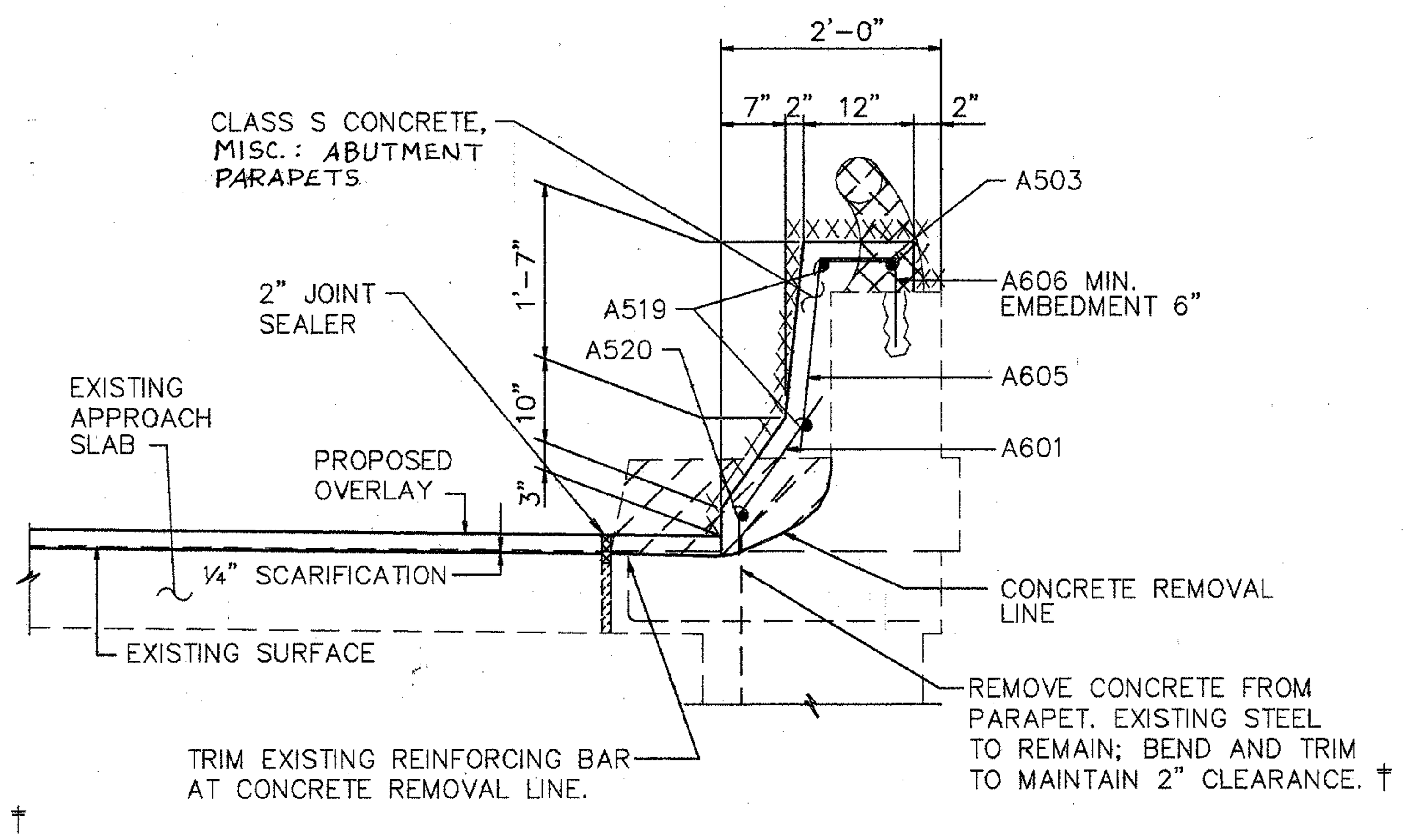
BRIDGE NO. HAM-42-0235 R (HAM-71-0229 L)

HAMILTON COUNTY

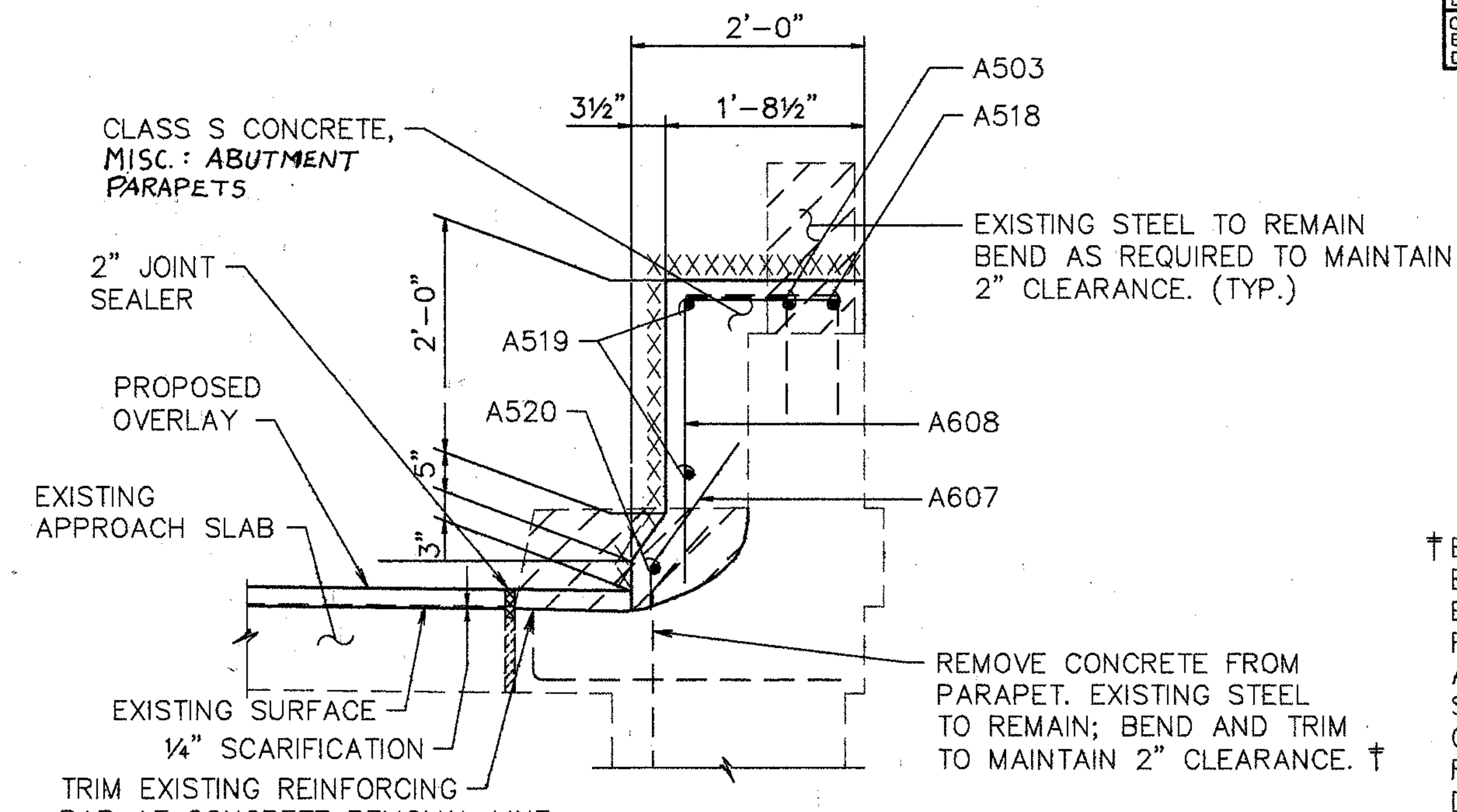
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	1/11/94	



SECTION B–B

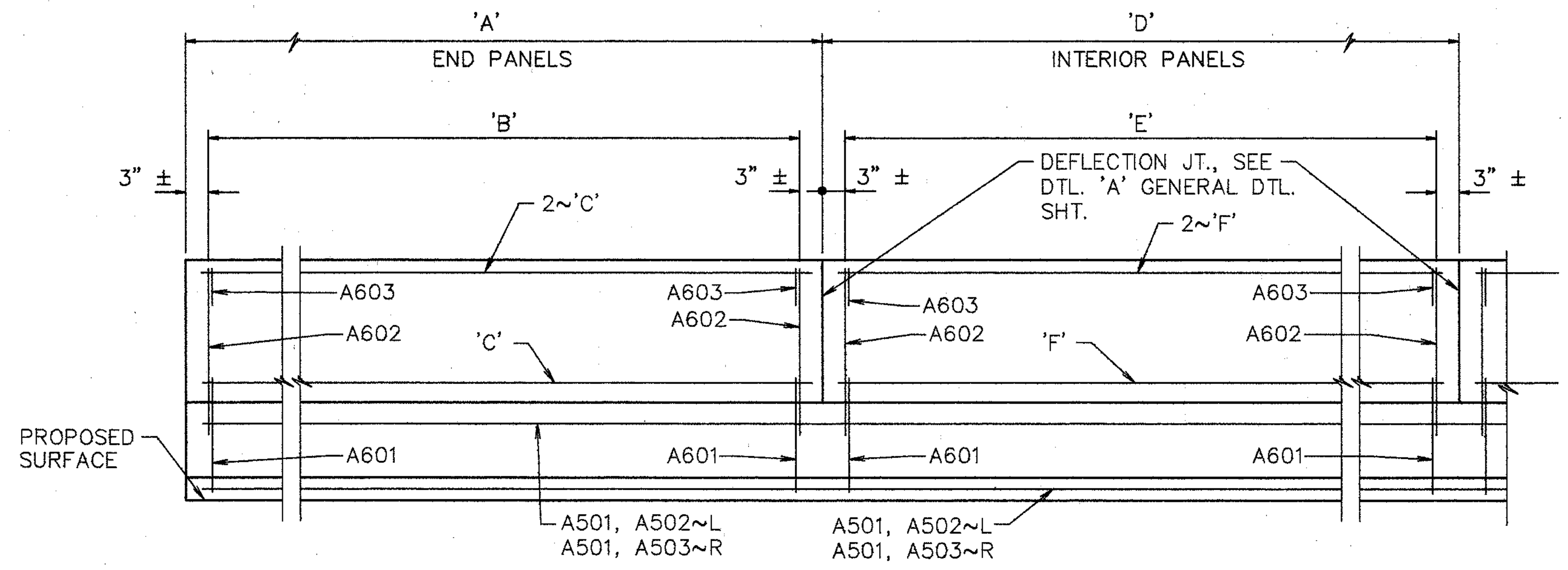


SECTION C–C



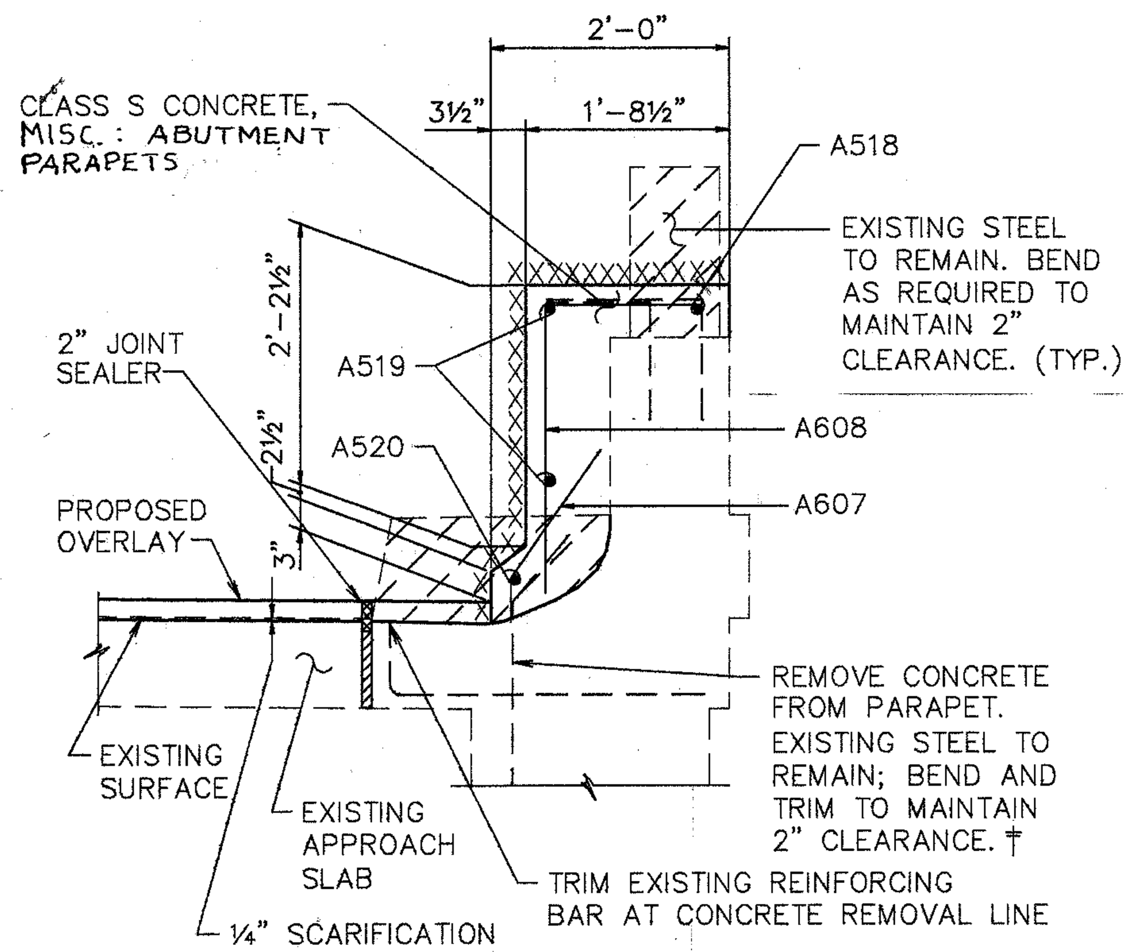
SECTION D–D

† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONC. REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.

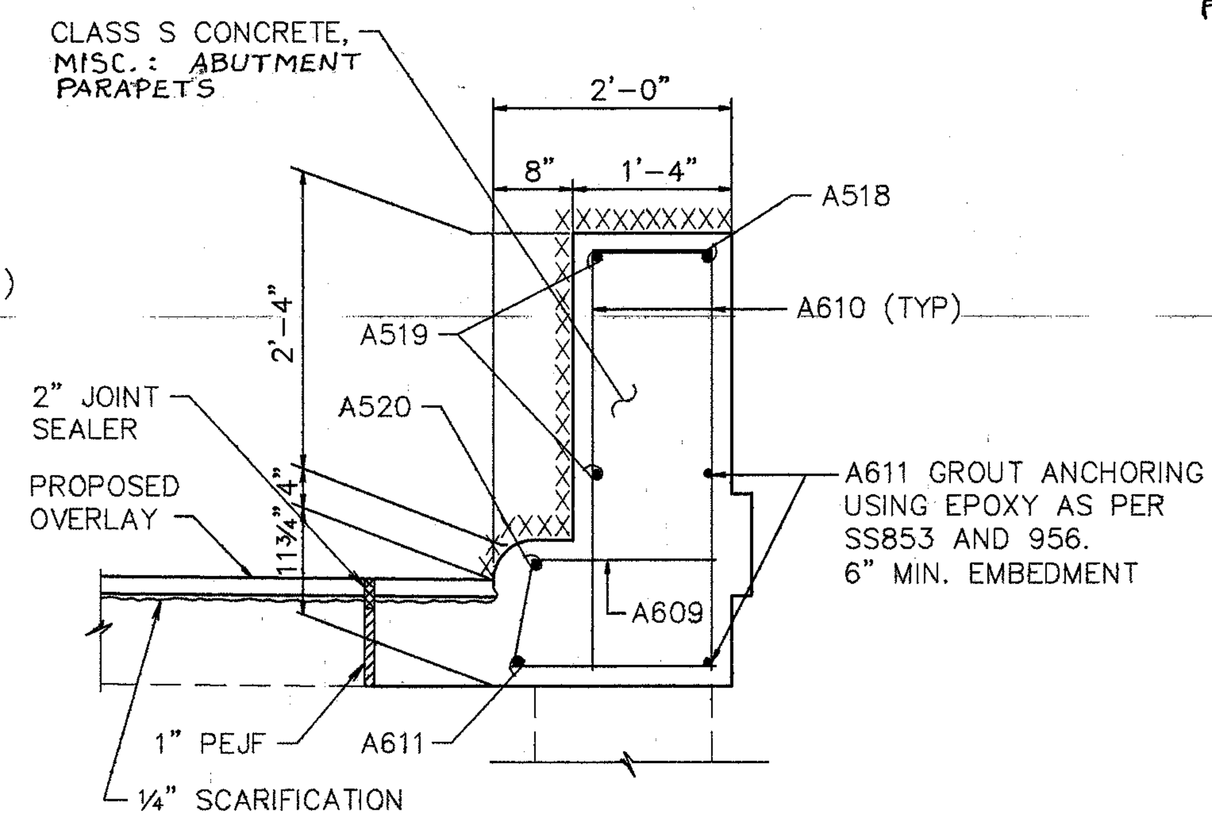


ELEVATION SUPERSTRUCTURE PARAPET

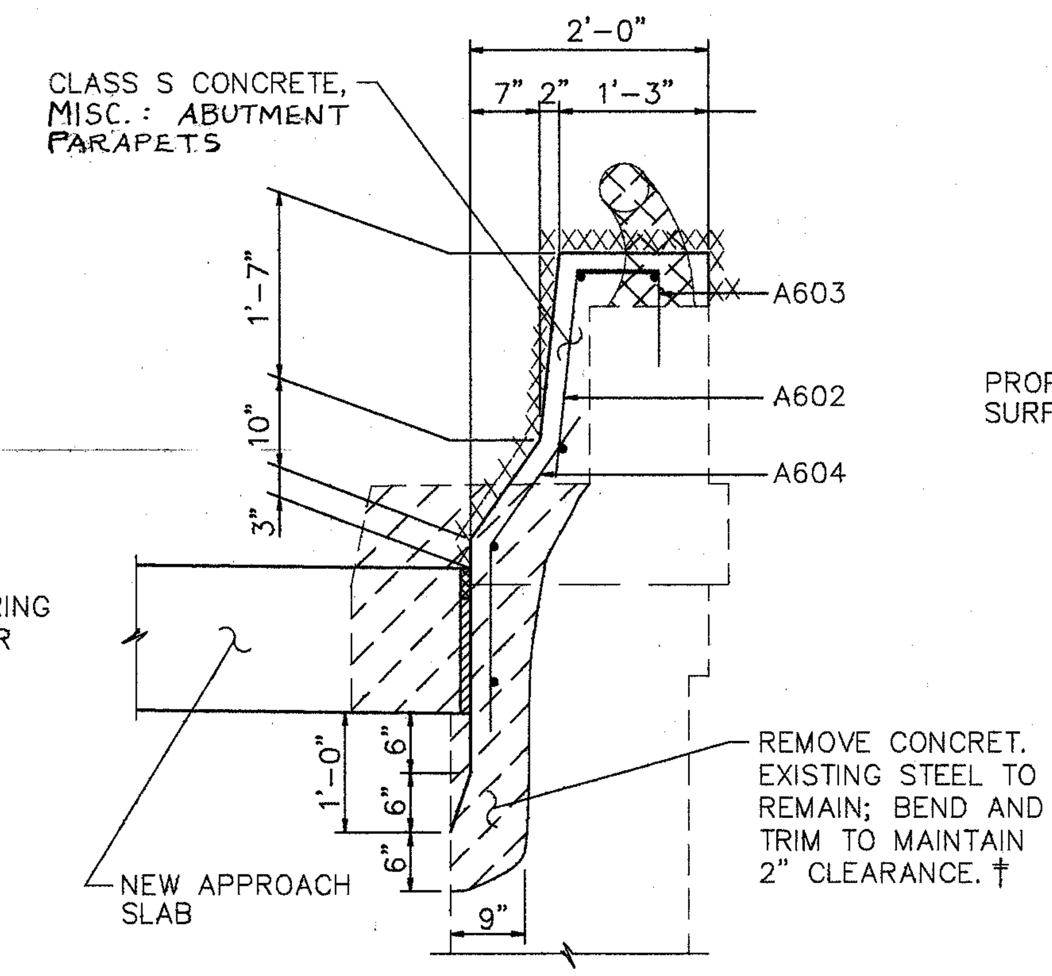
LOCATION	A	B	C	D	E	F
SPAN 1~LEFT WALL	13'–4" 17'–2"	12 SPA. @ 1'–1" 14 SPA. @ 1'–2¼"	A512 A510	5~16'–2"	13 SPA. @ 1'–2½"	A504
SPAN 2~LEFT WALL	14'–9½" 17'–6"	12 SPA. @ 1'–2¼" 14 SPA. @ 1'–2¼"	A508 A511	7~15'–8"	13 SPA. @ 1'–2"	A505
SPAN 3~LEFT WALL	13'–7½"	11 SPA. @ 1'–2½"	A507	5~15'–6"	12 SPA. @ 1'–3"	A506
SPAN 4~LEFT WALL	15'–7½" 12'–11⅝"	13 SPA. @ 1'–2" 11 SPA. @ 1'–1¾"	A509 A513	4~15'–8"	13 SPA. @ 1'–2"	A505
SPAN 1–3 RIGHT WALL	13'–10⅞" 14'–10"	11 SPA. @ 1'–2¾" 12 SPA. @ 1'–2½"	A516 A515	23~16'–0"	13 SPA. @ 1'–2¼"	A514
SPAN 4~RIGHT WALL	16'–4" 12'–8"	13 SPA. @ 1'–2¾" 10 SPA. @ 1'–2¾"	A502 A517	4~15'–4"	12 SPA. @ 1'–3"	A506



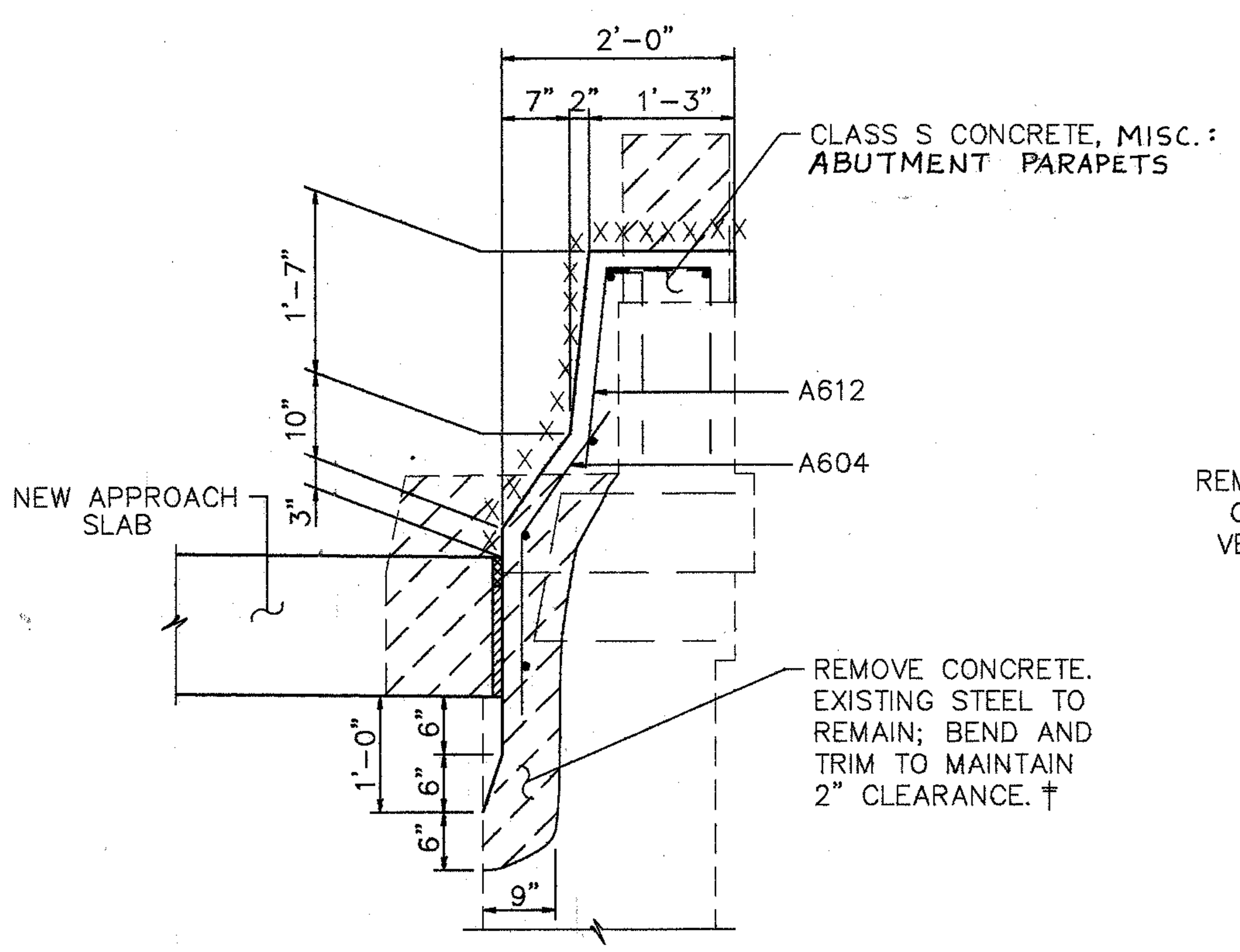
SECTION E–E



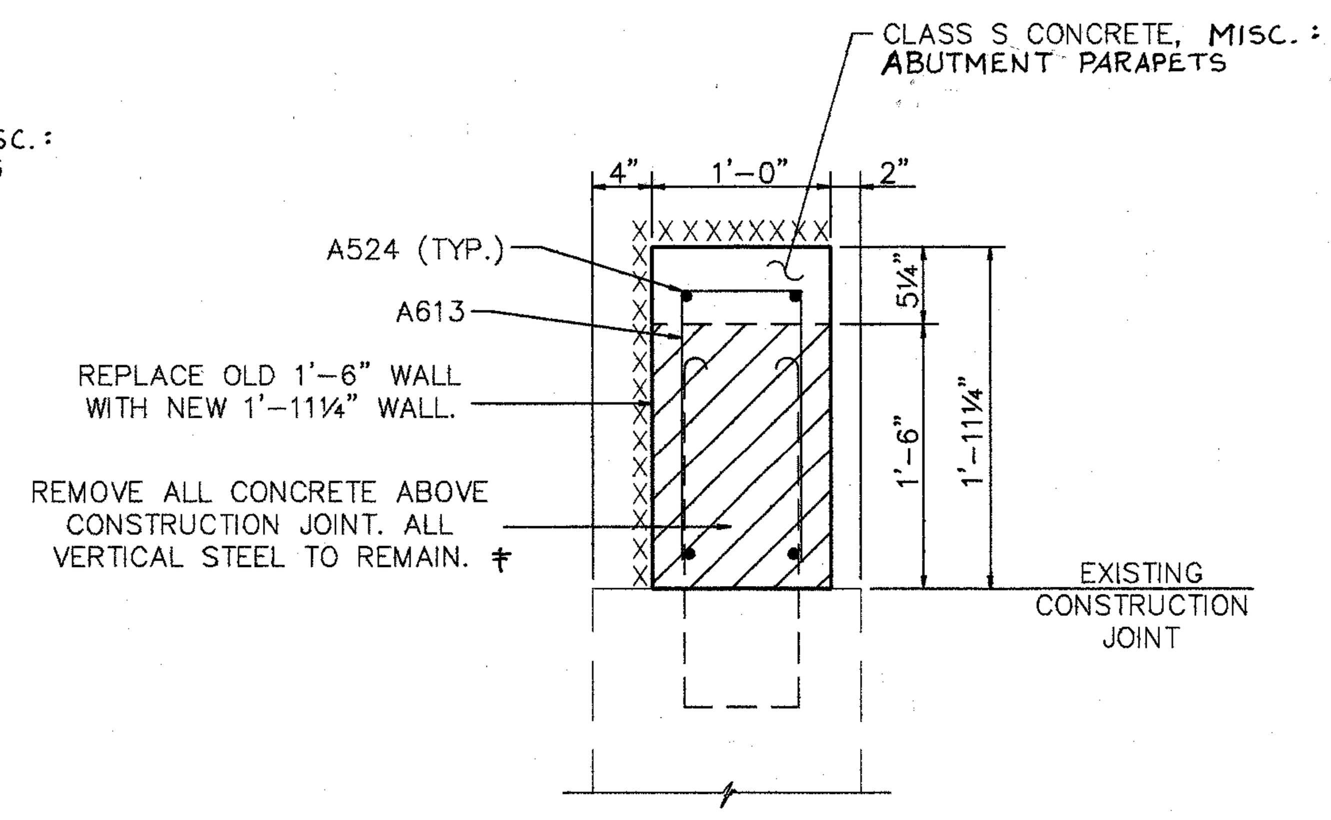
SECTION F–F



SECTION M–M



SECTION N–N



SECTION Q–Q

EXIST. CURB & PARAPET TO BE REMOVED UNDER ITEM 202-'PORTIONS OF STRUCTURES REMOVED'.

EXIST. RAILING & POSTS TO BE REMOVED & STACKED NEATLY ALONG THE RIGHT-OF-WAY FOR DISPOAL BY THE CONTRACTOR. ALL WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202-'PORTIONS OF STRUCTURE REMOVED'.

XXXXXX SURFACES TO BE SEALED UNDER ITEM SPECIAL-'SEALING OF CONCRETE SURFACES.

NOTES:

1. TYPE 'A" WATERPROOFING AT THE BRIDGE LIMIT END OF THE APPROACH SLAB (AS PER STD. DWG. AS-1-81) SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611 APPROACH SLAB.

NOTES:

- L DENOTES LEFT SIDE
- R DENOTES RIGHT SIDE
- RF DENOTES RIGHT FORWARD
- LF DENOTES LEFT FORWARD
- RR DENOTES RIGHT REAR
- LR DENOTES LEFT REAR
- NF DENOTES NEAR FACE
- FF DENOTES FAR FACE

WOOLPERT CONSULTANTS
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(513) 461-5660

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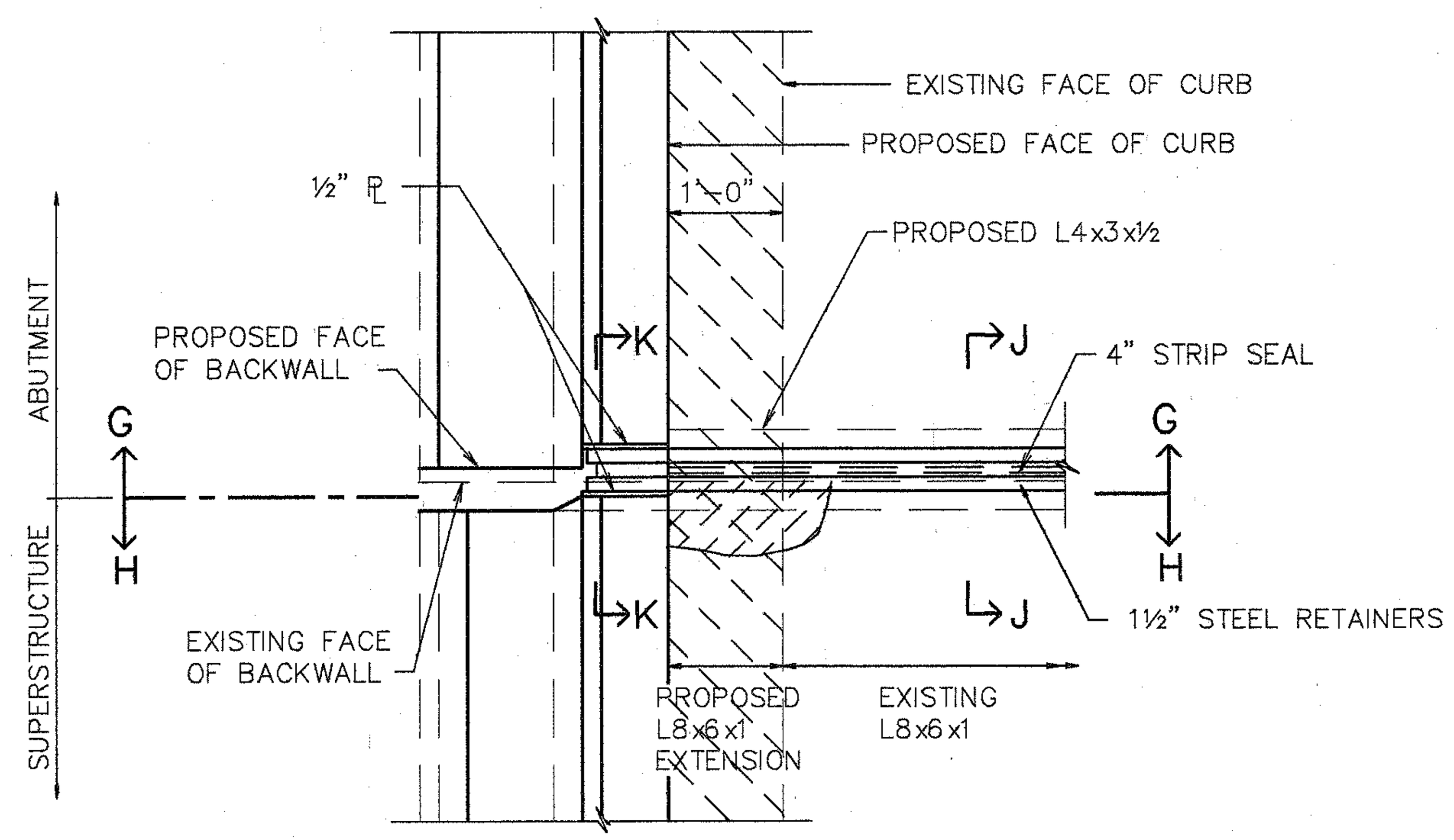
PARAPET SECTIONS

BRIDGE NO. HAM-42-0235 R (HAM-71-0229 L)
NORTHBOUND READING ROAD OVER SOUTHBOUND (I-71)
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.			

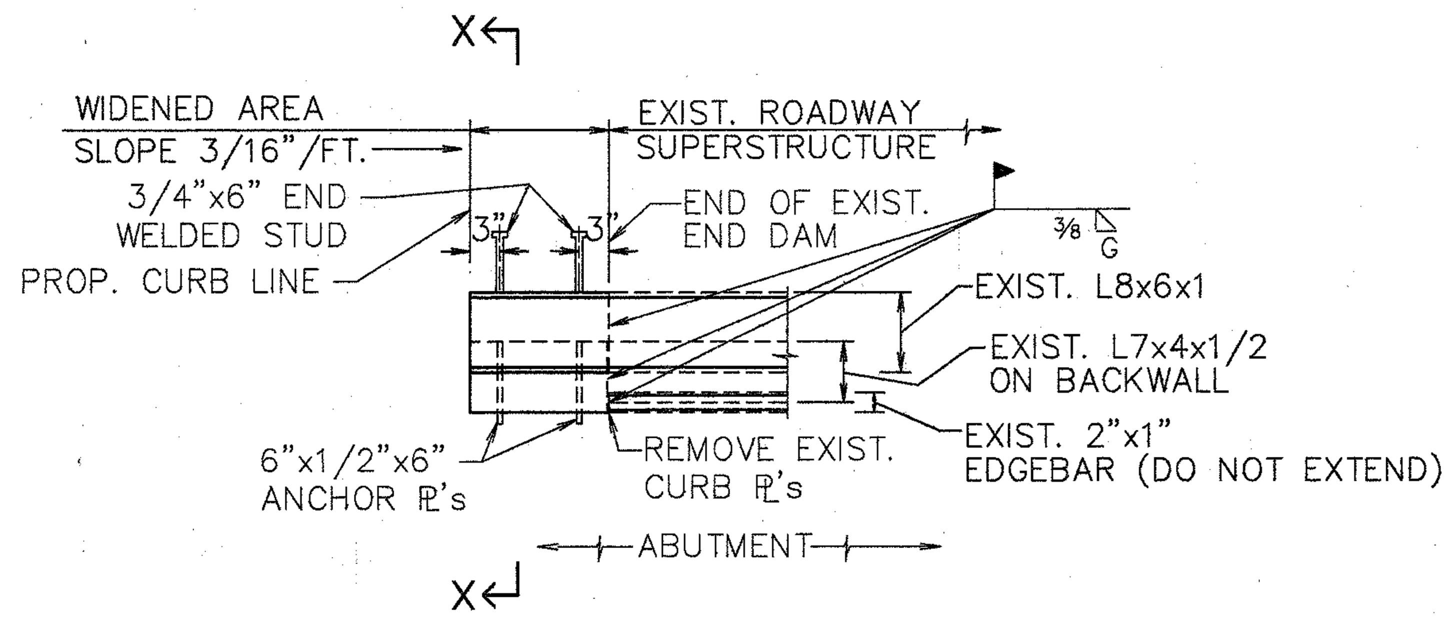
Last Plot: MAY 15, 1991 @ 5:03 PM
G:\STR\6586-03\ASHLAND\0235SHT4 Last Revision By: D.E.E. APR. 13, 1993 @ 9:54 AM

CALC. BY L.A.T.M. DATE 4-23-94 / CHK'D BY D.E.M. DATE 10-4-94	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	337 / 401



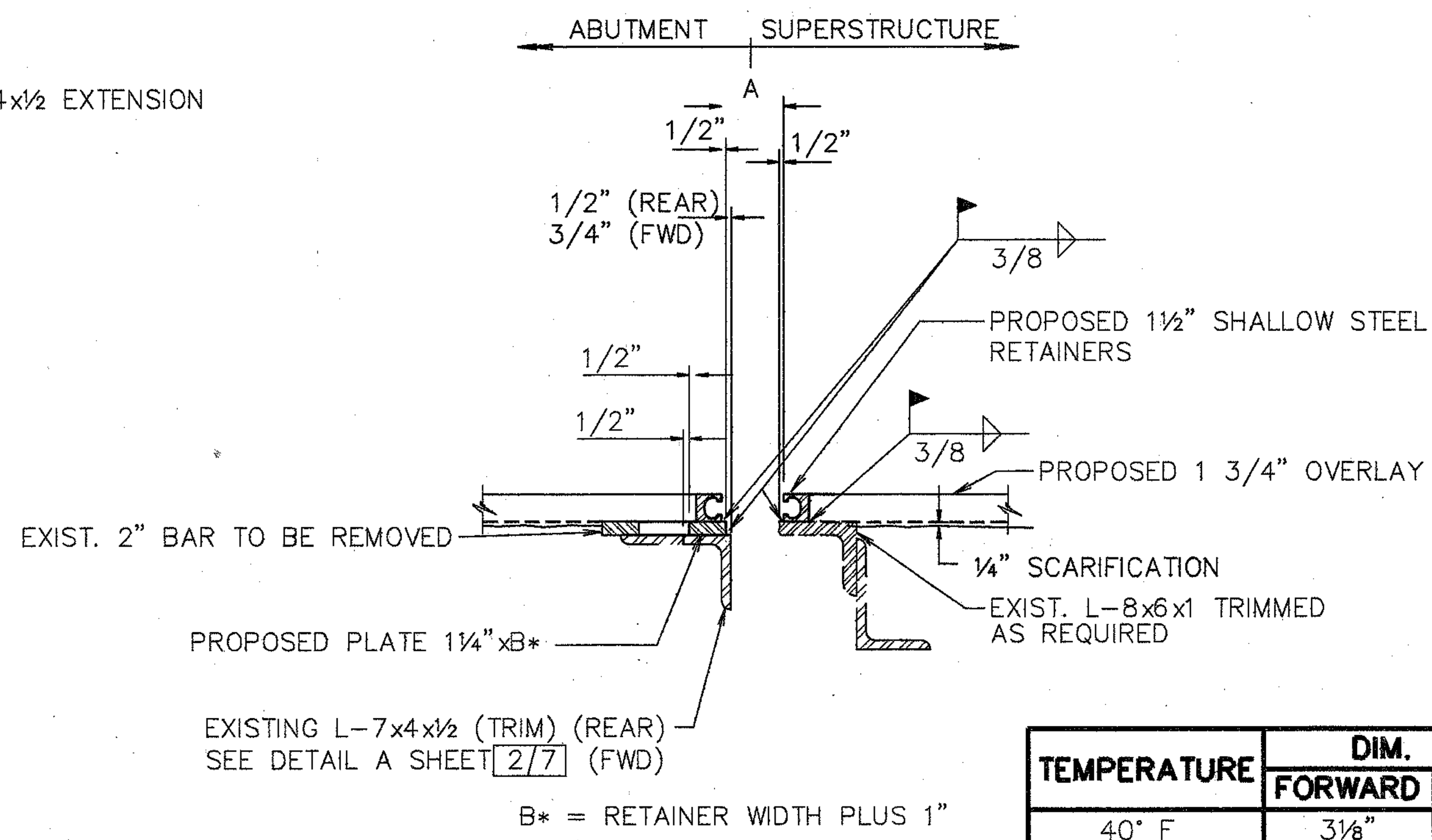
NOTE:
1. SEE PLAN END DAM @ WIDENED AREAS FOR ANGLE EXTENSIONS.

PART PLAN @ LEFT FORWARD
RIGHT FORWARD OPPOSITE HAND



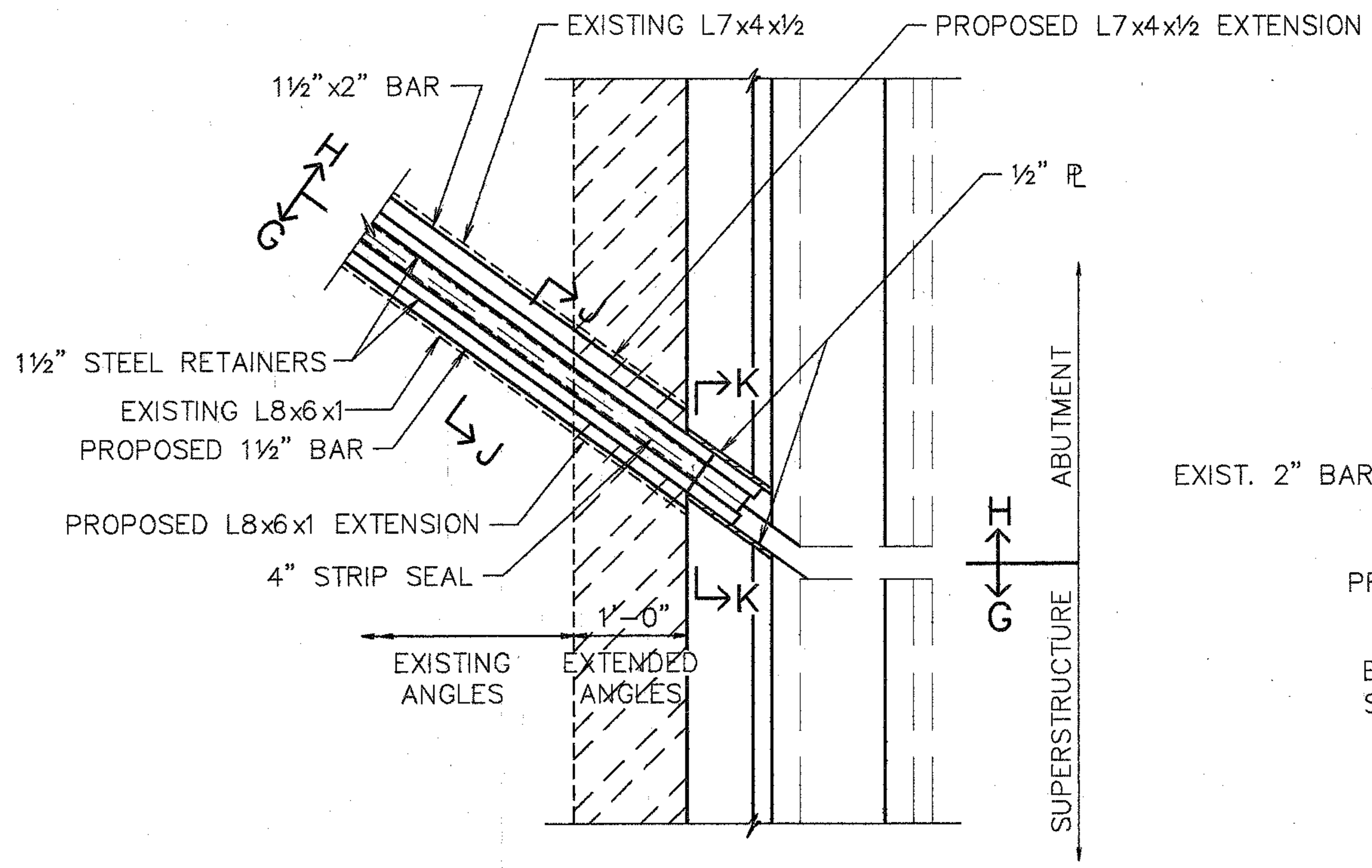
PLAN END DAM @ WIDENED AREAS
(SKEW NOT SHOWN)

NOTES:
- END DAM WIDENING SHOWN IS FOR THE R.F. & L.R. CORNERS OF THE BRIDGE. THE L.F. & R.R. CORNERS ARE SIMILAR, BUT OPPOSITE HAND. (SKEW NOT SHOWN)
- FOR DETAILS & DIMS. NOT SHOWN SEE STD. DWG. SD-1-69.
- STRIP SEAL OMITTED FOR CLARITY.

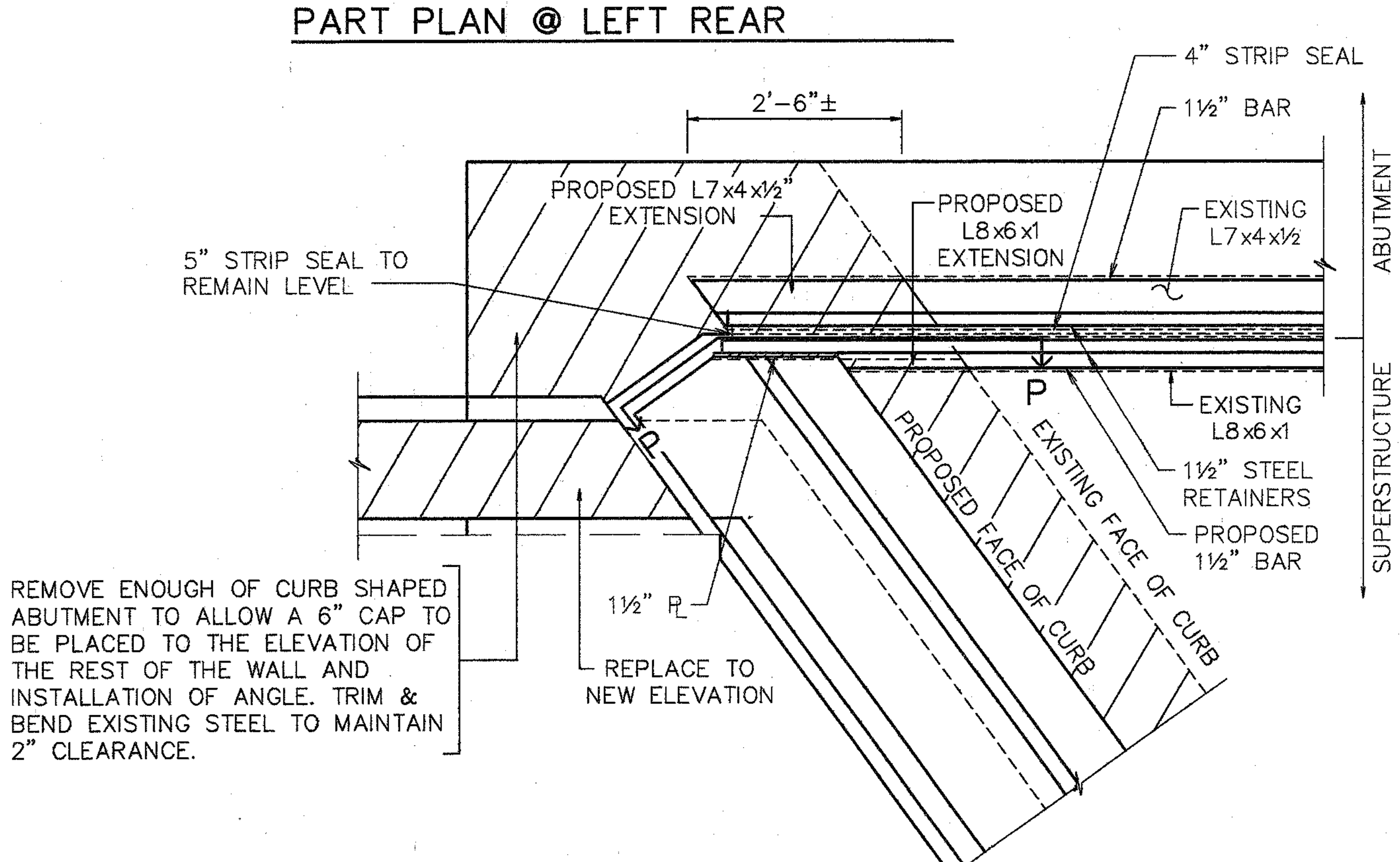


SECTION J-J

TEMPERATURE	DIM. 'A' FORWARD	DIM. 'A' REAR
40° F	3⅛"	3¼"
50° F	3"	3⅛"
60° F	2⅞"	3"
70° F	2¾"	2⅞"
80° F	2⅝"	2"
90° F	2½"	2½"



PART PLAN @ LEFT REAR

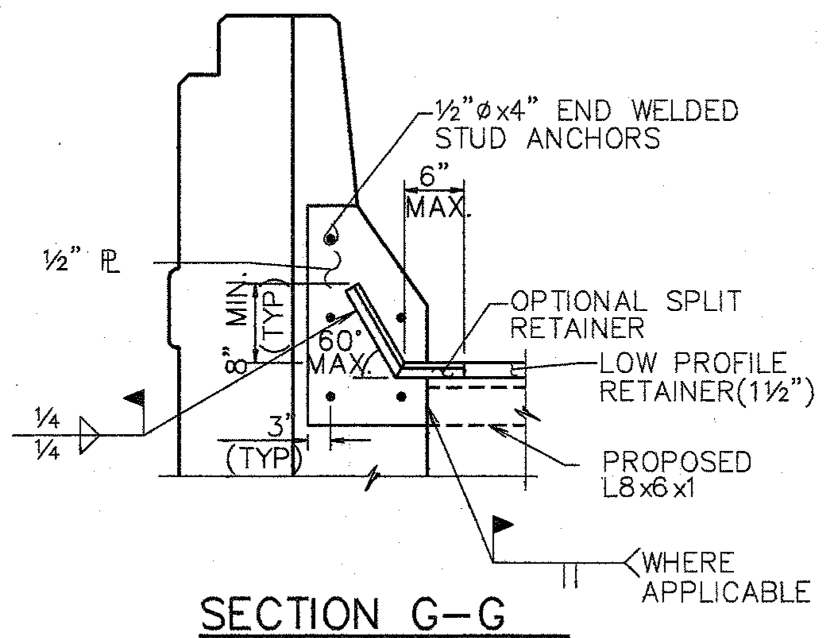


REMOVE ENOUGH OF CURB SHAPED ABUTMENT TO ALLOW A 6" CAP TO BE PLACED TO THE ELEVATION OF THE REST OF THE WALL AND INSTALLATION OF ANGLE. TRIM & BEND EXISTING STEEL TO MAINTAIN 2" CLEARANCE.

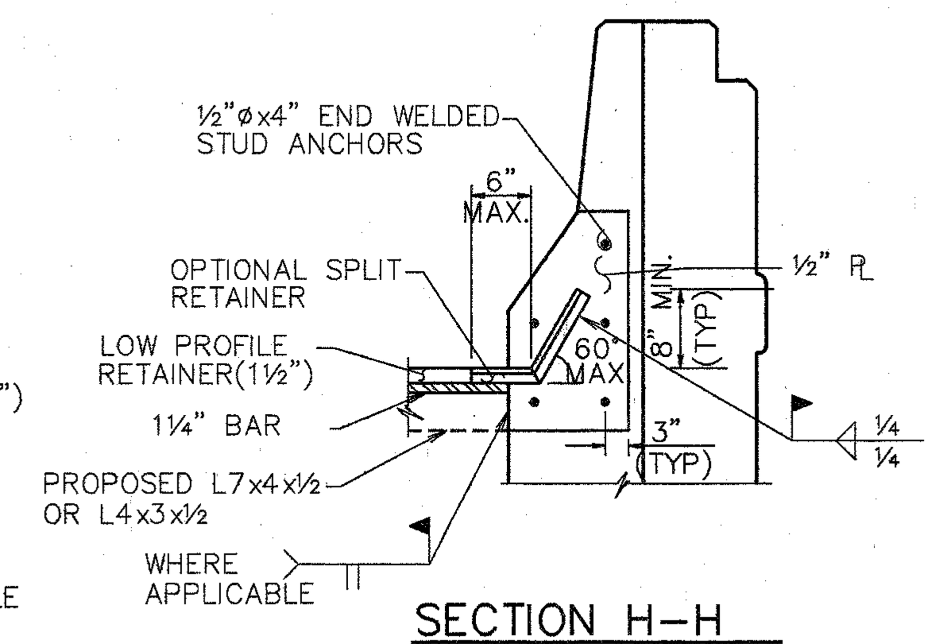
PART PLAN @ RIGHT REAR

NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO MODIFYING THE EXPANSION JOINT.
2. THE PRICE BID FOR ITEM 516-'STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS', SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY OTHER INCIDENTIAL ITEMS, AS DETAILED. REMOVAL OF CURB OR PARAPET AS SHOWN SHALL BE INCLUDED UNDER ITEM 202-'PORTIONS OF STRUCTURE REMOVED.
3. FOR DETAILS NOT SHOWN REFER TO DRAWING EXJ-4-87 SHEETS 3 AND 4.
4. STRIP SEAL TO BE INSTALLED IN ONE CONTINUOUS PIECE (NO OPEN JOINTS).
5. PROVIDE TEMPORARY SUPPORT FOR ABUTMENT END DAM DURING CONSTRUCTION. REMOVE TEMPORARY SUPPORT AS SOON AS CONCRETE HAS SET, PREFERABLY WITHIN TWO HOURS AFTER PLACING TO AVOID DAMAGE DUE TO EXPANSION AND CONTRACTION OF SUPERSTRUCTURE.

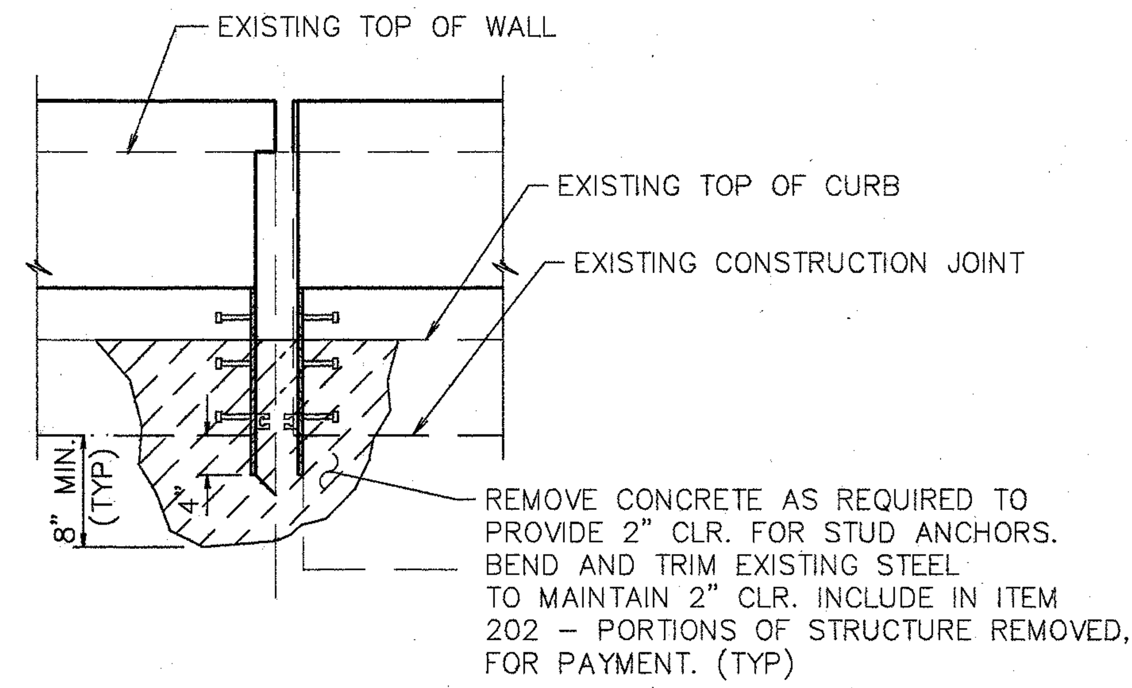


SECTION G-G
OPPOSITE HAND FOR RR AND LF



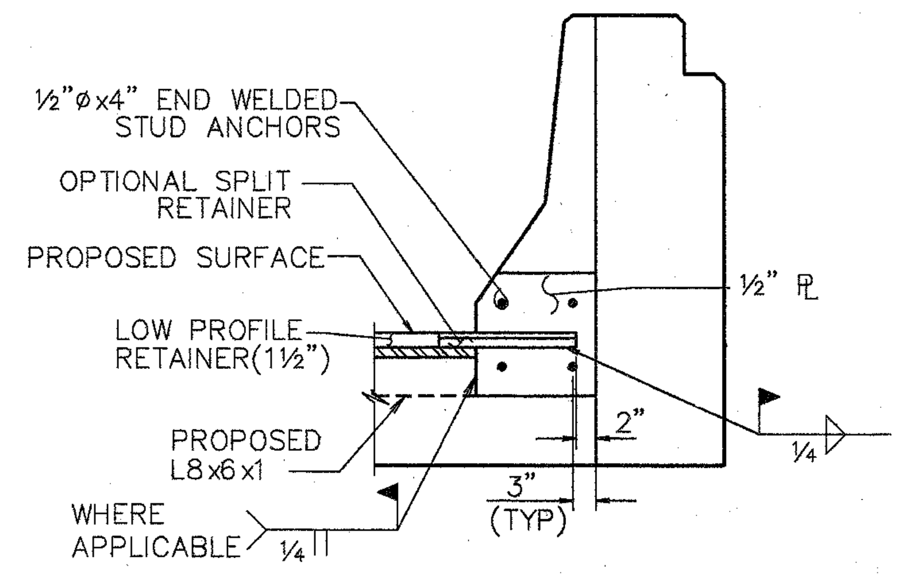
SECTION H-H
OPPOSITE HAND FOR RR AND LF

NOTE:
1. EXPANSION JT. DETAILS TO BE WORKED WITH STD. DWG. EXJ-4-87 SHTS. 1 thru 5.
2. WHEN PLATE IS RECESSED INTO ABUTMENT, CONCRETE BELOW PLATE SHALL BE SLOPED FROM BOTTOM OF THE PLATE TO THE END OF THE ABUTMENT TO DETER THE ACCUMULATION OF DEBIS.

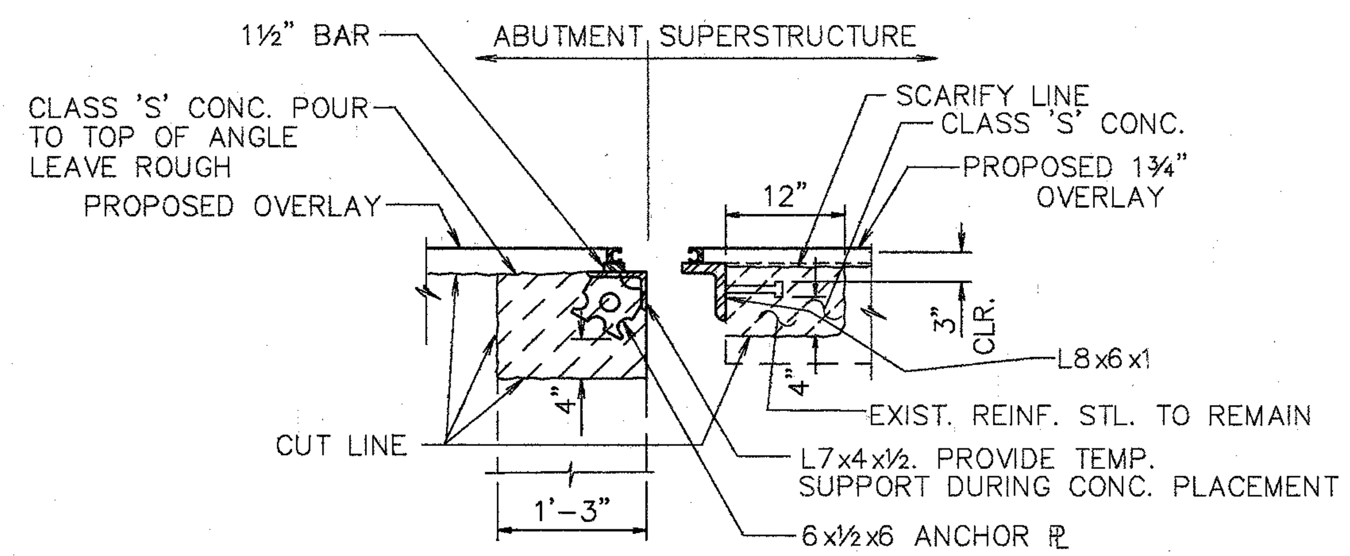


SECTION K-K

NOTE: IF PORTION OF DECK OR ABUTMENT PARAPET IS TO BE REPLACED, THE ½" PLATES SHALL BE INSTALLED ALONG WITH THE NEW PARAPET.



SECTION P-P



SECTION X-X

NOTE:
1. FOR DETAILS NOT SHOWN SEE STD. DWG. SD-1-69.
2. SEE SECTION J-J FOR RETAINER SPACING AND WELDING

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409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660

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EXPANSION JOINT PART PLANS

BRIDGE NO. HAM-42-0235 R (HAM-71-0229 L)
NORTHBOUND READING ROAD OVER SOUTHBOUND (I-71)
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	11/11/94	

REINFORCING STEEL LIST

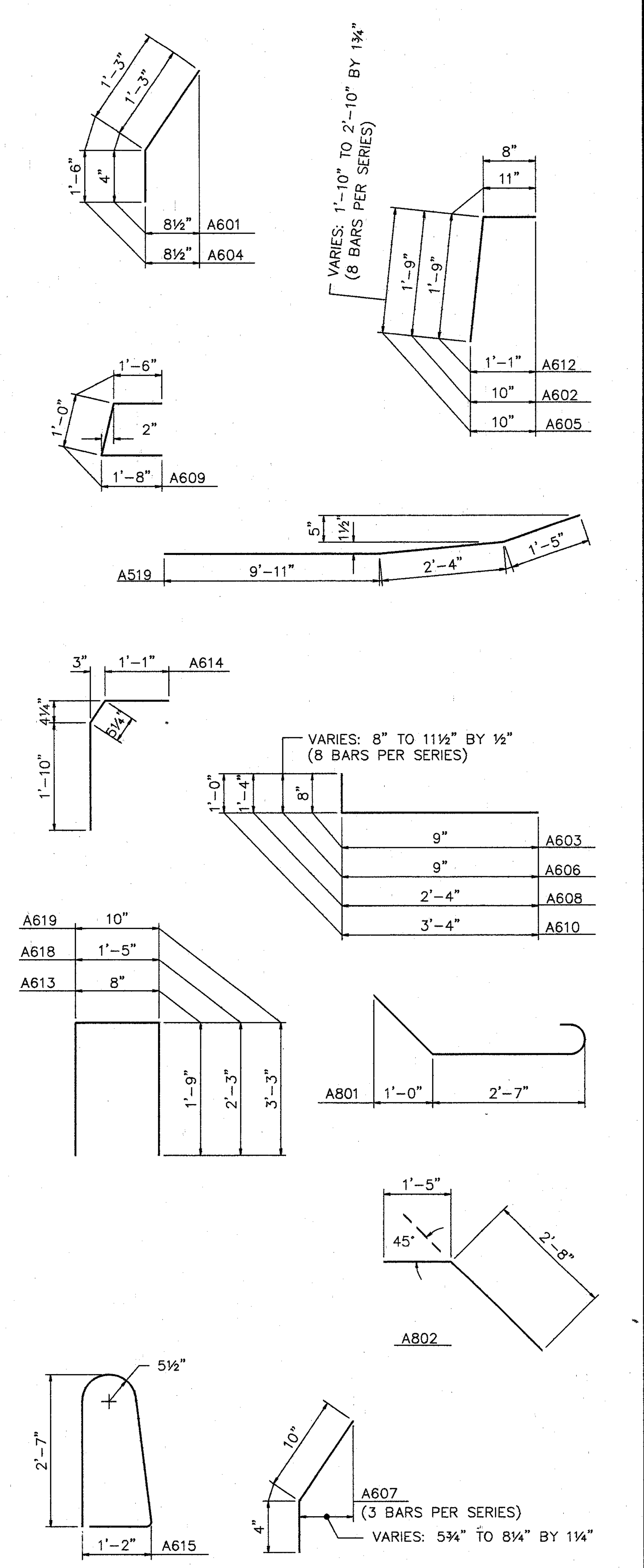
MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A501	STR.	64	30'-0"	2003
A502	STR.	5	16'-0"	80
A503	STR.	3	11'-0"	34
A504	STR.	15	15'-10"	248
A505	STR.	33	15'-4"	528
A506	STR.	27	15'-0"	422
A507	STR.	3	13'-3"	41
A508	STR.	3	14'-5"	45
A509	STR.	3	15'-3"	48
A510	STR.	3	16'-10"	53
A511	BNT.	3	17'-2"	54
A512	BNT.	3	13'-0"	41
A513	STR.	3	12'-7"	39
A514	STR.	69	15'-8"	1127
A515	STR.	3	14'-6"	45
A516	STR.	3	13'-5"	42
A517	STR.	3	12'-4"	39
A518	STR.	1	5'-0"	5
A519	BNT.	2	13'-8"	29
A520	BNT. ‡	1	13'-8"	14
A521	STR.	4	5'-7"	23
A522	STR.	5	17'-6"	91
A523	STR.	5	9'-6"	50
A524	STR.	4	16'-9"	70
A525*	STR.	11	14'-5"	165
A526	STR.	11	3'-0"	34
A527	STR.	11	16'-0"	184
A528	STR.	20	5'-3"	110
A529	STR.	8	5'-6"	46
A530	STR.	16	7'-8"	128

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A601	BNT.	816	1'-6"	1838
A602	BNT.	820	2'-5"	2968
A603	BNT.	822	1'-3"	1543
A604	BNT.	16	2'-8"	64
A605	BNT.	8	2'-6" to 3'-6"	36
A606	BNT.	8	1'-3" to 1'-6"	17
A607	BNT.	3	2'-6"	11
A608	BNT.	3	1'-10"	8
A609	BNT.	1	3'-10"	6
A610	BNT.	2	4'-2"	13
A611	STR.	3	10"	4
A612	BNT.	4	2'-8"	16
A613	BNT.	15	3'-10"	86
A614	BNT.	8	3'-2"	38
A615	BNT.	8	6'-2"	74
A616	STR.	28	6'-0"	252
A617	STR.	28	7'-0"	294
A618	BNT.	28	5'-7"	235
A619	BNT.	28	7'-0"	294
A801	BNT.	19	4'-9"	241
A802	BNT.	21	4'-0"	224
REPLACEMENT STEEL				600
			TOTAL	14,700

* PROVIDE MECHANICAL CONNECTORS WITH A525 BARS.

‡ BEND IN FIELD, AS REQUIRED.

BENT BAR DETAILS



ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	L.S.	PORTIONS OF STRUCTURE REMOVED
503	21100	16	C.Y.	UNCLASSIFIED EXCAVATION
509	15820	14,700	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
510	12201	77	L.F.	DOWEL HOLES AS PER PLAN
511	34450	6	C.Y.	CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
511	45700	18	C.Y.	CLASS C CONCRETE, ABUTMENT (REPAIR OR RECONSTRUCT)
SPECIAL	51267500	1273	S.Y.	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	123	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
514	27704	LUMP	L.S.	FIELD PAINTING, MISC: EXISTING STEEL, EEU *
516	14600	100	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2" x 4" SEALER, AS PER PLAN
516	11210	69	L.F.	STRUCTURAL EXP. JT. INCLUDING ELASTOMERIC STRIP SEALS
516	45304	8	EACH	REFURBISH BEARING DEVICE
516	14600	75	L.F.	SEAL JOINT BETWEEN ABUTMENT AND CONCRETE SLOPE PROTECTION
517	76201	923	L.F.	RAILING FACED, AS PER PLAN (32" HIGH)
518	12700	1	EACH	SCUPPER, VERTICAL EXTENSION
518	12800	4	EACH	SCUPPER MODIFICATION
518	21200	16	C.Y.	POROUS BACKFILL, WITH FILTER FABRIC
518	41100	34	L.F.	6" PERFORATED HELICAL CORRUGATED STEEL PIPE, 707.01
518	63300	LUMP SUM	L.S.	STRUCTURE DRAINAGE, MISC: MODIFY DRAINAGE PIPING
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
625				FOR LIGHTING SUMMARY SEE LIGHTING PLANS
601	21100	3	S.Y.	REPAIR CONCRETE SLOPE PROTECTION
SPECIAL	51912600	10	L.F.	CONCRETE REPAIR BY EPOXY INJECTION *
845	40210	1581	S.Y.	LATEX MODIFIED CONCRETE MISC: OVERLAY (1¾" THICK) ON EXISTING DECK
845	11000	26	C.Y.	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)
845	30000	1	C.Y.	FULL DEPTH REPAIR

* SEE PROPOSAL NOTE

PROPOSED WORK

1. MODIFY PARAPETS ON THE SUPERSTRUCTURE & ABUTMENTS. (INSTALL PLATES FOR STRIP SEAL EXP. JT.).
2. SCARIFY EXISTING DECK ¼", AND REMOVE DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER.
3. REFURBISH ABUTMENT BEARINGS.
4. PLACE 1¾" THICK LATEX MODIFIED CONCRETE ON DECK.
5. REPLACE BACKWALL, NORTH ABUTMENT. RECONSTRUCT BACKWALL ABOVE APPROACH SLAB SEAT, REAR ABUTMENT.
6. SEAL PARAPETS, PIERS, & BACKWALLS.
7. SEAL JOINTS, AS NOTED.
8. SEAL EXPANSION JOINT WITH STRIP SEAL.
9. REPLACE GUARDRAIL AND INSTALL HYDRO-CELL IMPACT BARRIER AS SHOWN ON ON ROADWAY PLANS.
10. REFURBISH DRAINAGE PIPING.
11. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION AND ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTENANCE OF TRAFFIC PLANS. MAINTENANCE OF TRAFFIC PLAN PLAN REQUIRES CONSTRUCTION PHASING LIMITS AT LANE CENTERLINES. DUE TO THESE LIMITS, OVERLAY MAY REQUIRE SPECIAL ATTENTION.
12. OTHER WORK AS DESCRIBED IN THESE PLANS.

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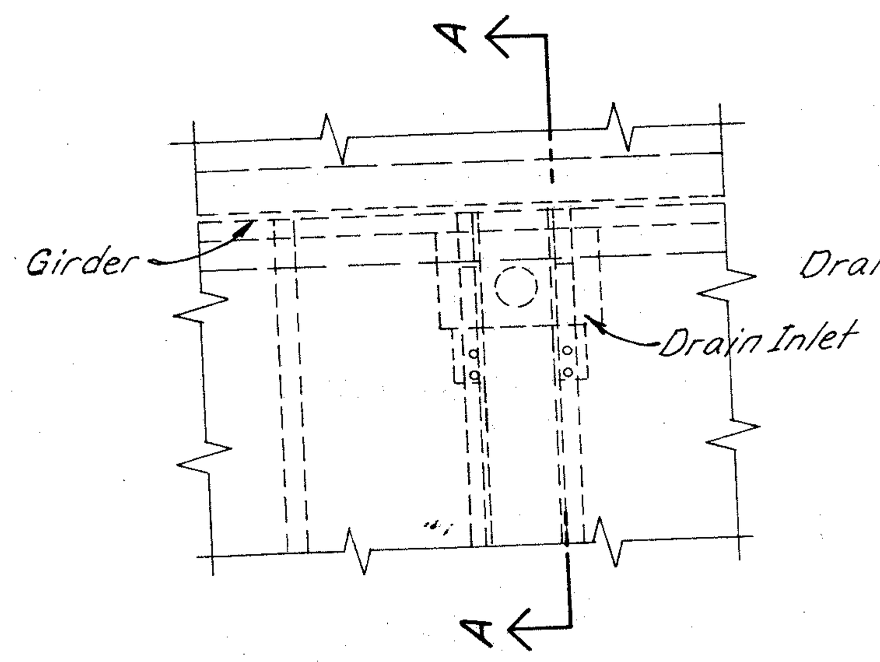
QUANTITIES AND GENERAL NOTES

BRIDGE NO. HAM-42-0235R (HAM-71-0229 L)

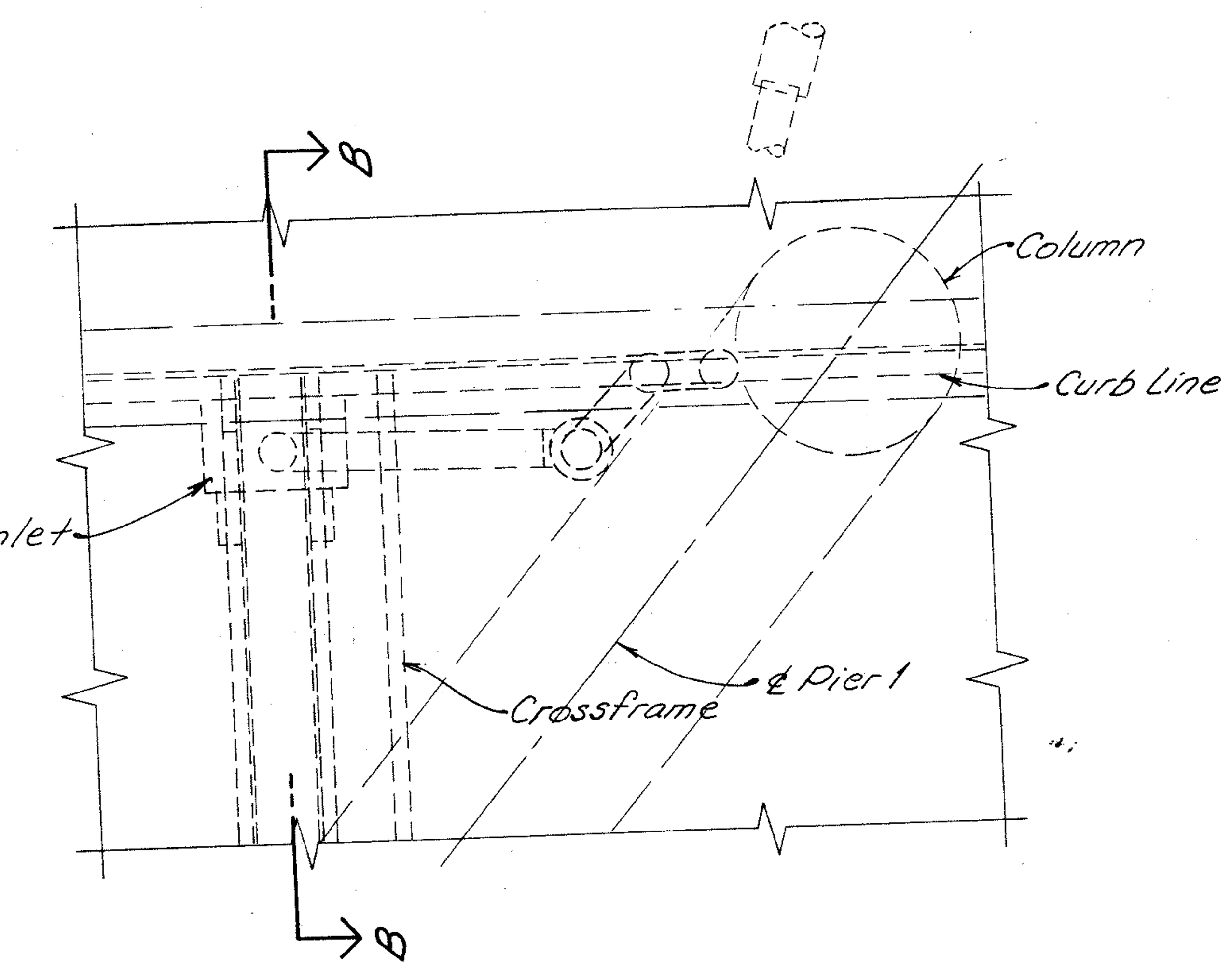
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	11/11/94	

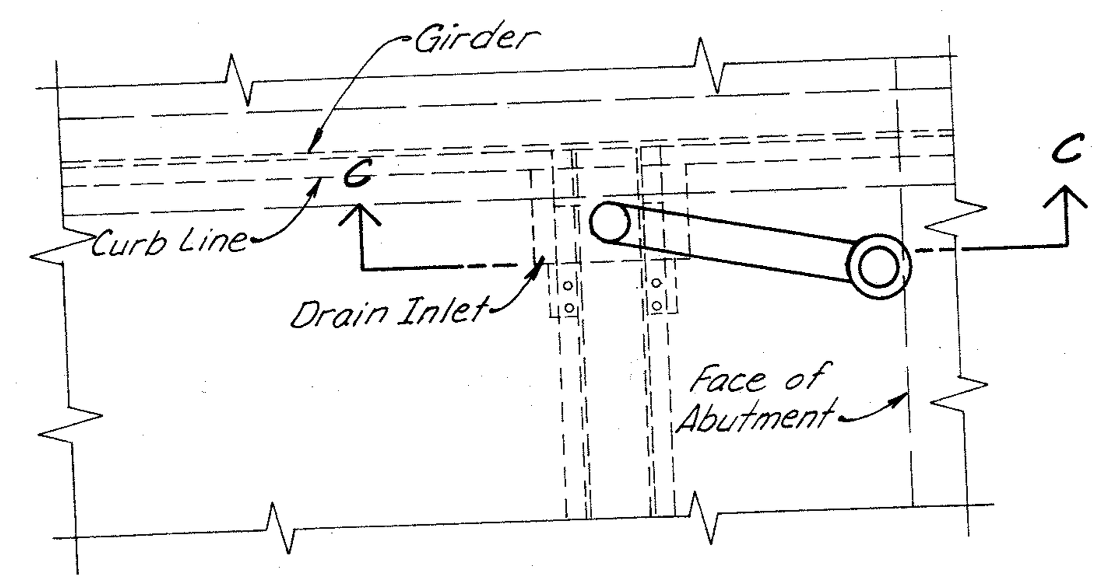
Last Plot: MAY 15, 1991 @ 5:10 PM G:\STR\6566-03\ASHLAND\0235SH76 Last Revision By: D.E.E. APR. 12, 1994 @ 11:40 AM



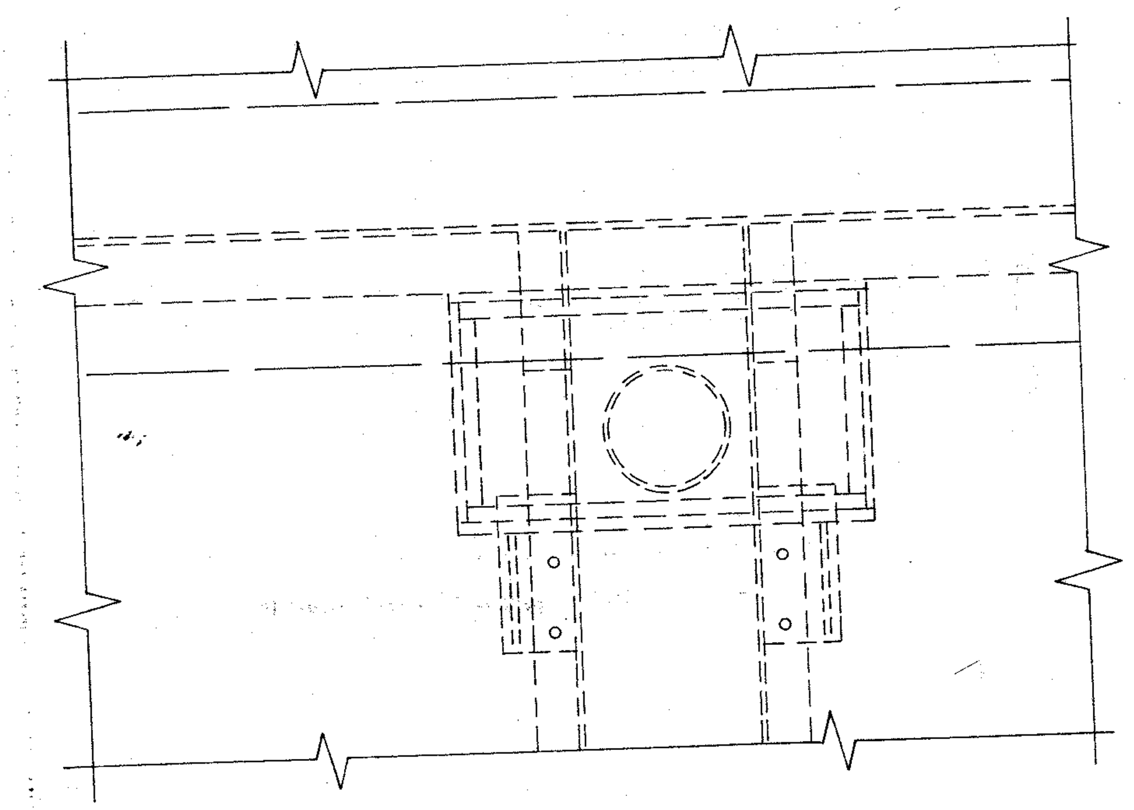
PLAN WEST ABUTMENT



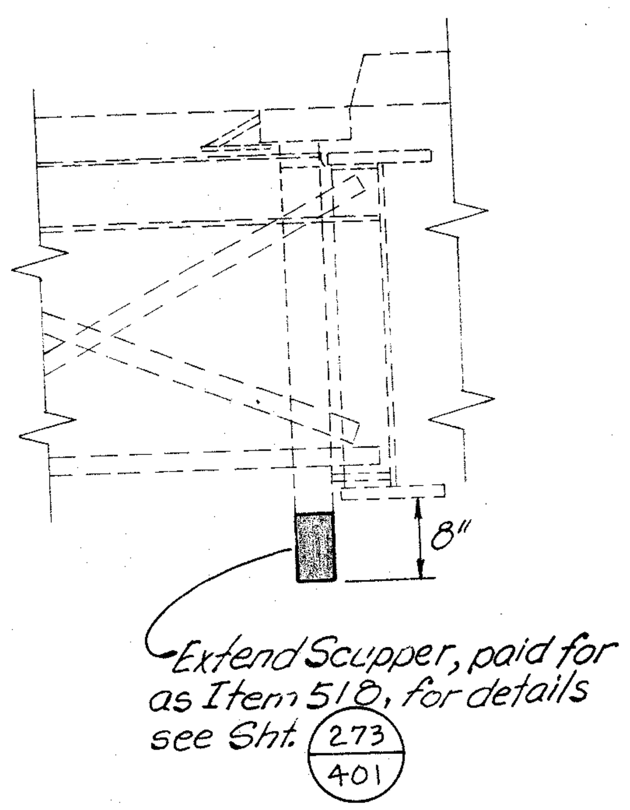
PLAN PIER 1
-NO WORK REQUIRED-



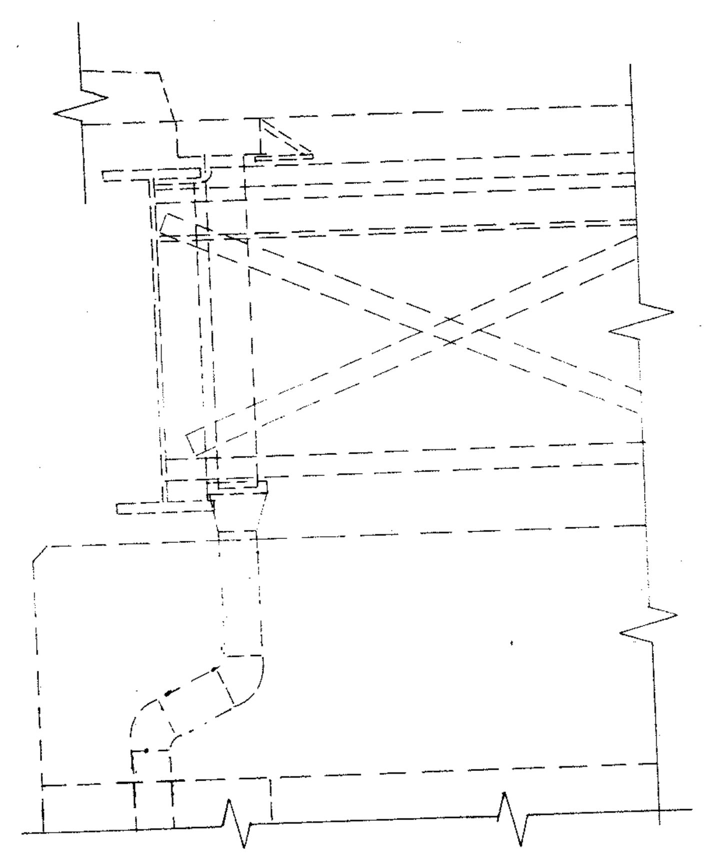
PLAN NORTH ABUTMENT



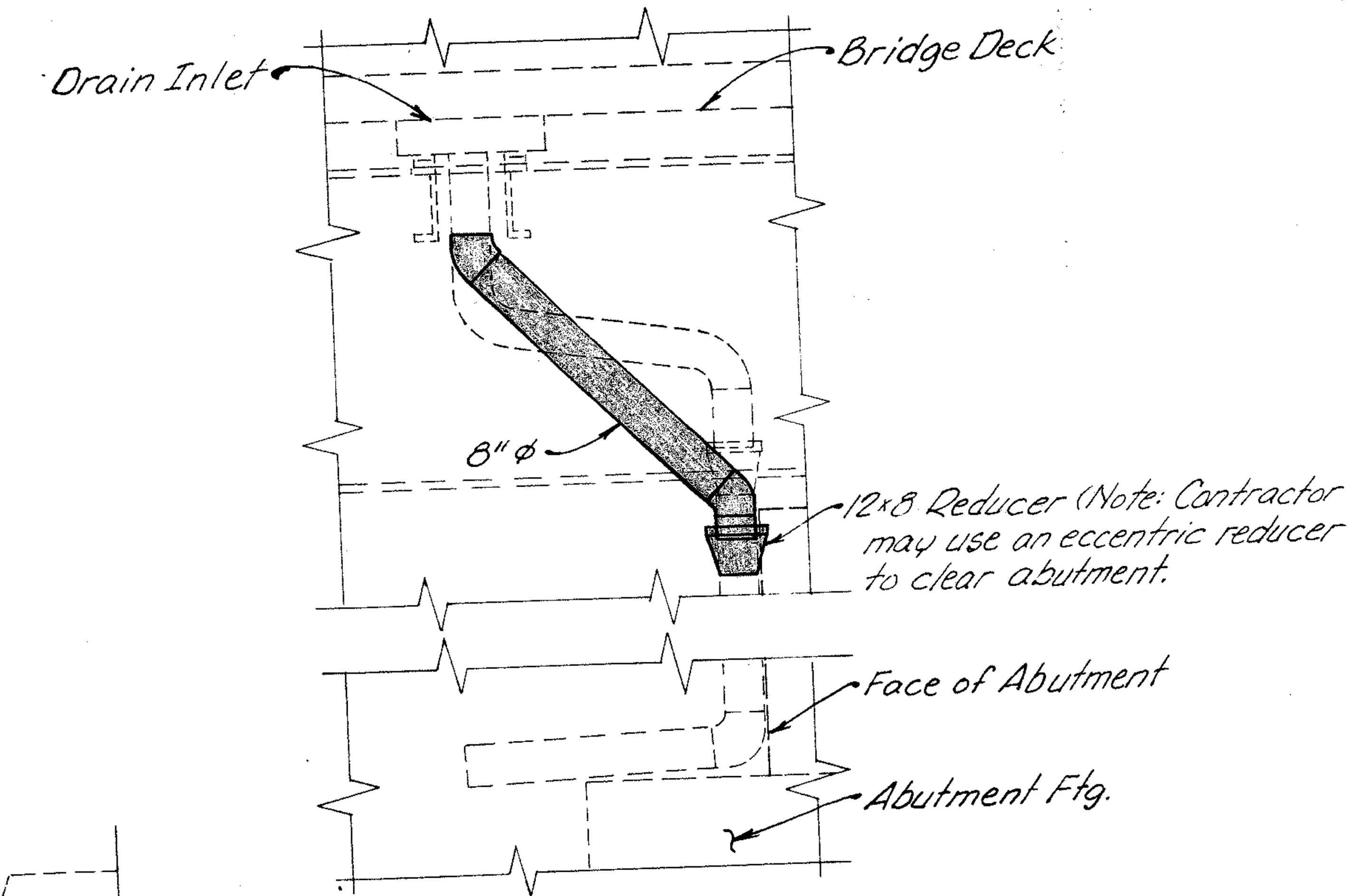
TYPICAL DRAIN INLET SUPPORT DETAIL



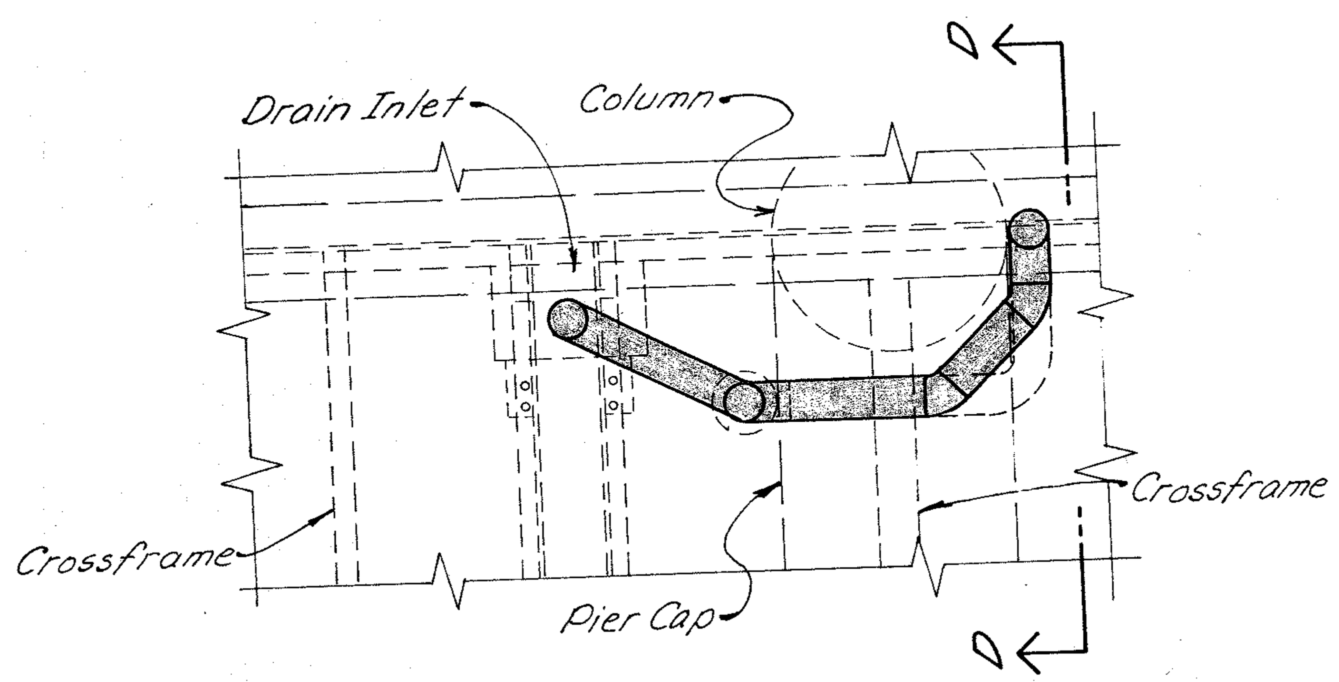
SECTION A-A



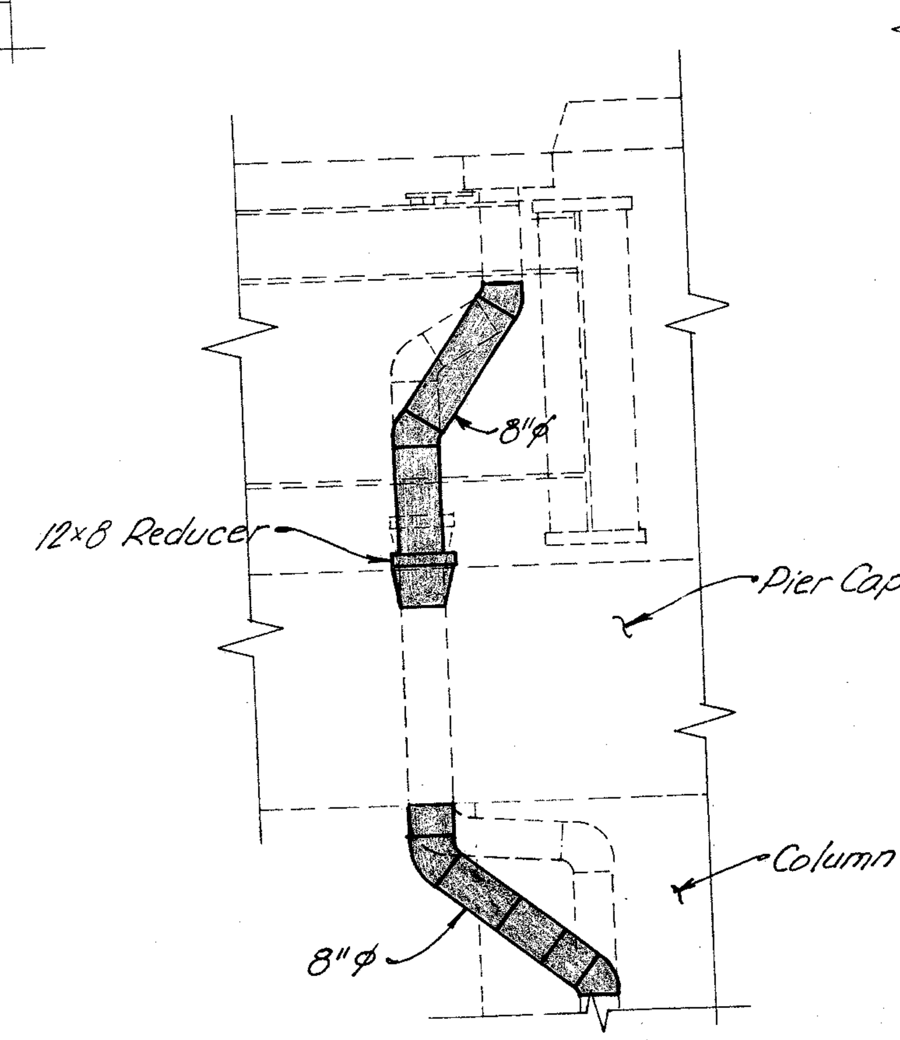
SECTION B-B



SECTION C-C



PLAN PIER 3



SECTION D-D

1. For drainage piping requirements see General Notes on sht. 273/401
2. Approximate No. of Linear Feet of proposed 8"ϕ pipe (including specials) = 25'

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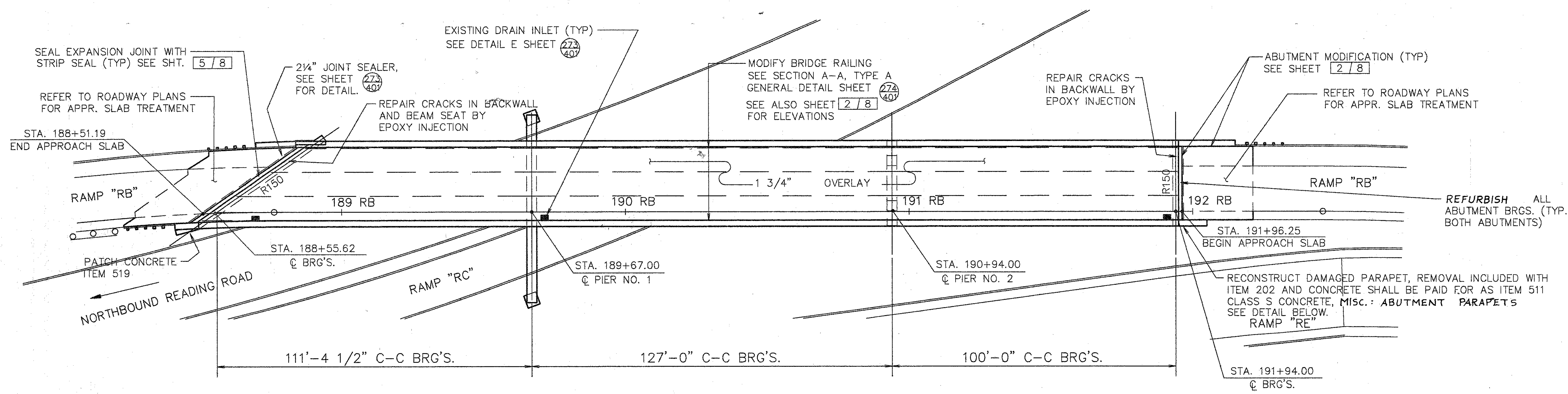
DRAINAGE DETAILS

BRIDGE NO. HAM-42-0235 R
OVER I-71

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	L.A.P.		D.E.M.	P.W.G.	11/11/94	

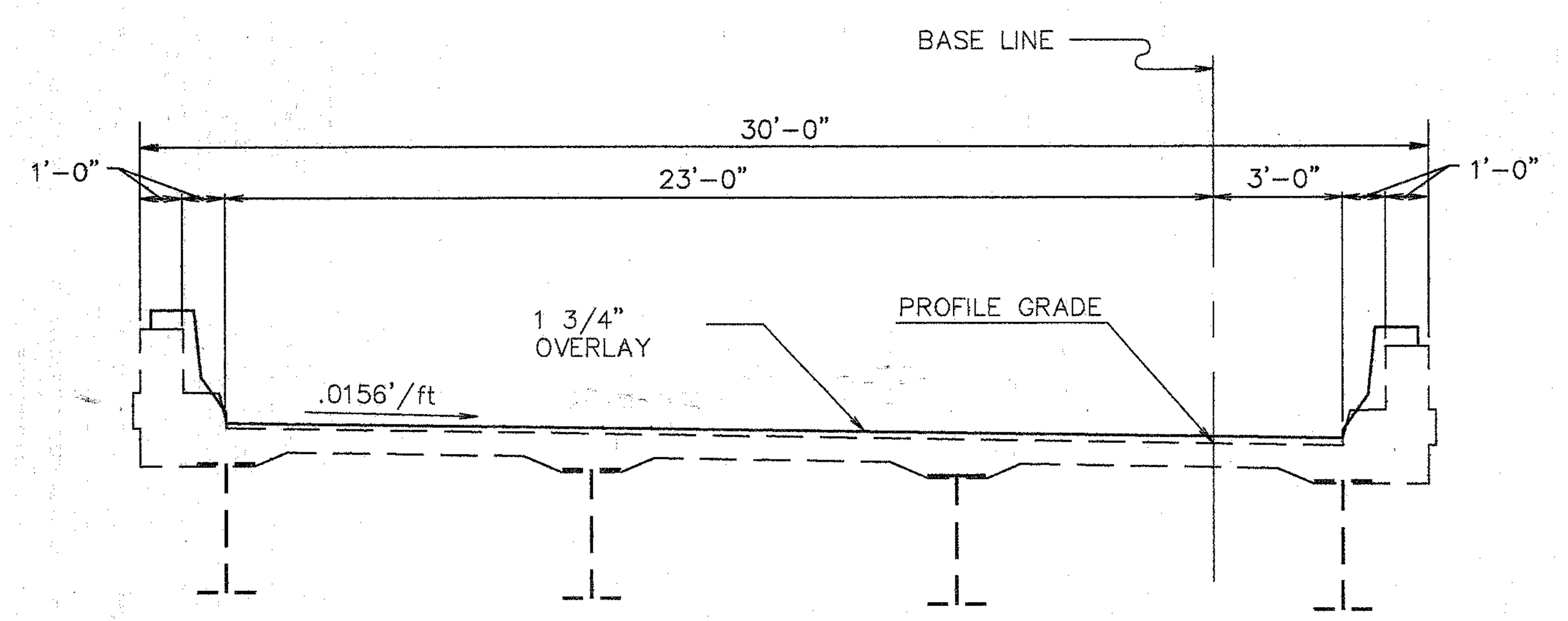


PLAN

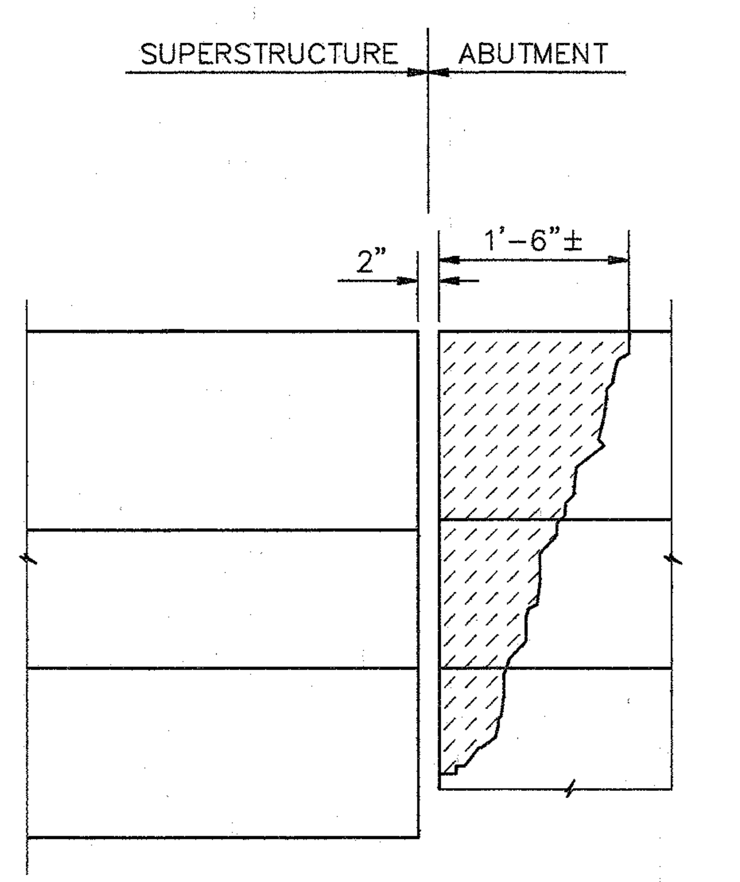
NOTE:

1. SEAL PARAPETS, BACKWALLS, AND PIERS. SEAL PIERS COMPLETELY EXCEPT TOP OF COLUMNS & TOP OF PIER CAP.
2. SEE JUNCTION BOX EXTENSION DETAIL SHT. 273/401 FOR BARRIER RETROFIT AT JUNCTION BOXES. REFER TO LIGHTING DETAILS FOR TYPE & LOCATION.

ROCKER OR BOLSTER SIZE	JACK CAPACITY REQ'D. (MIN)
R150	125 TON



TYP. BRIDGE SECTION



NORTH EAST ABUTMENT PARAPET REPAIR DETAIL

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL PLATE GIRDER WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: 111'-4 1/2", 127'-0", 100'-0" C/C BRG'S
ROADWAY: 26'-0" F/F CURBS W/1'-0" CURBS (28'-0" F/F PARAPETS)
SKEW: 0° (PIERS 1 & 2 & N. ABUT.) 55° S. ABUT. (MEASURED FROM FORWARD TANGENT)
LOAD FREQUENCY: CF=2000 (57) ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: VARIES
SUPERELEVATION: VARIES

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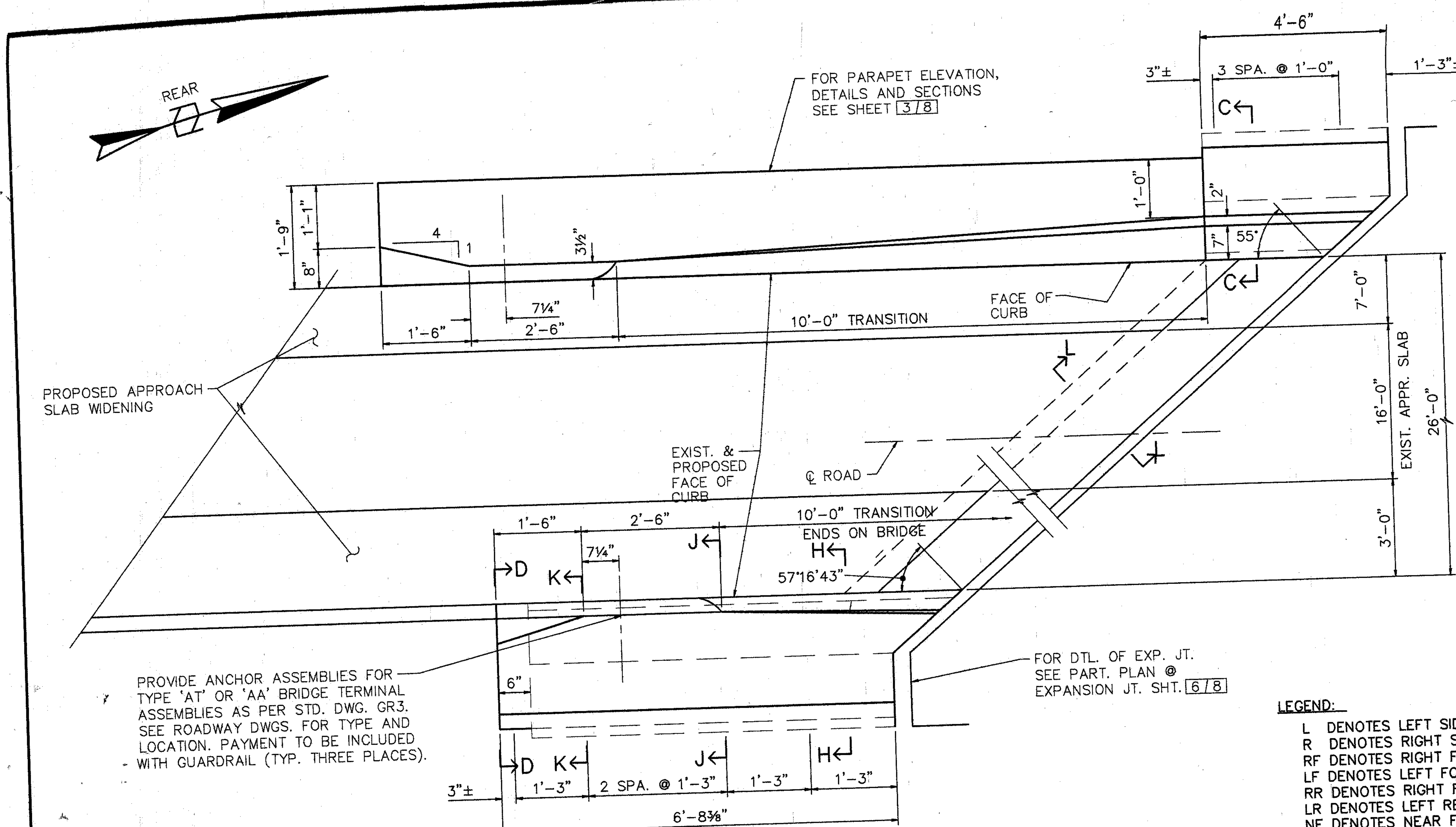
GENERAL PLAN

BRIDGE NO. HAM-42-0257R
OVER N.B. READING ROAD

HAMILTON COUNTY

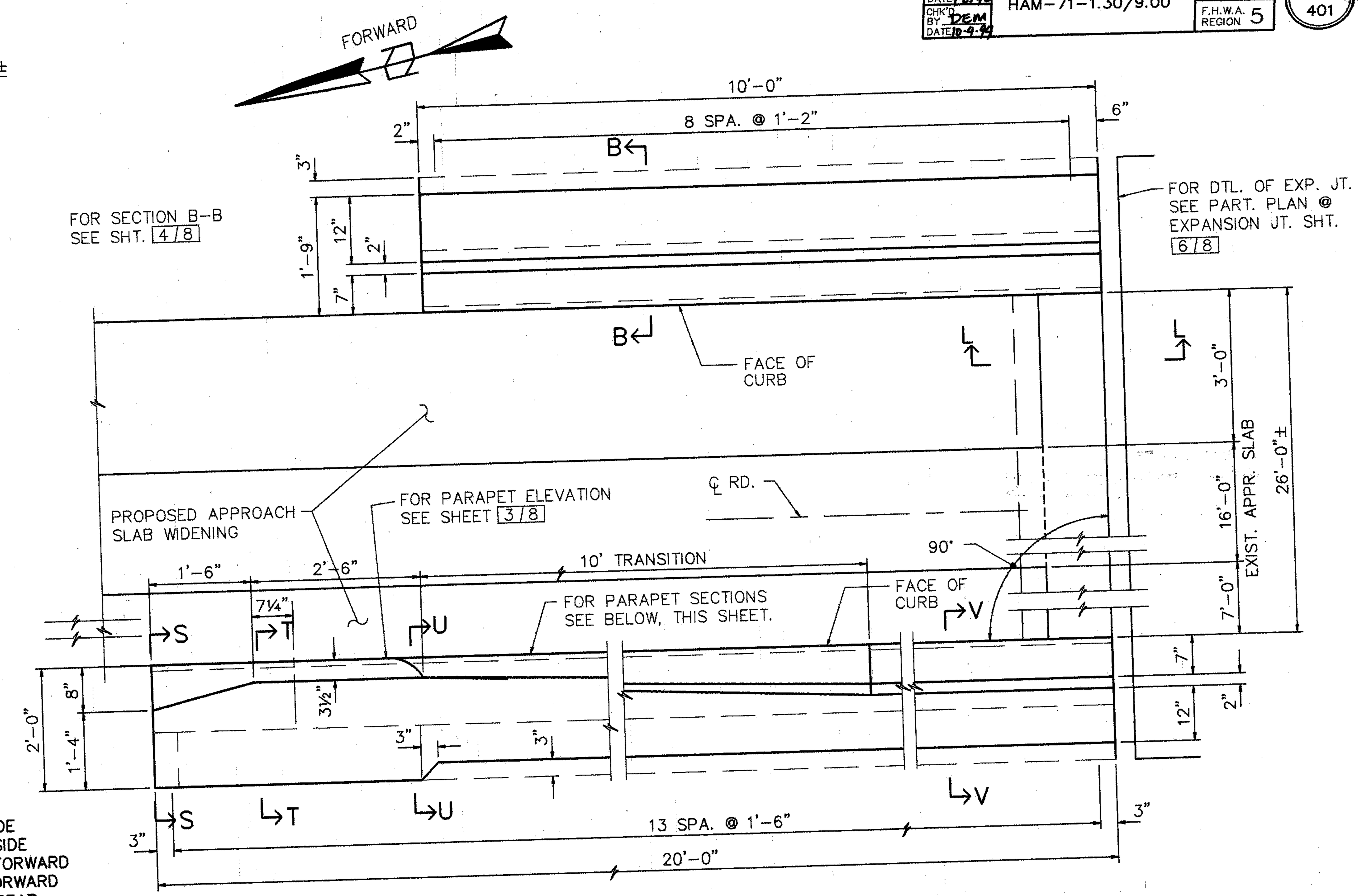
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.11/11/94	



PLAN – REAR ABUTMENT MODIFICATION

FOR SECTION D-D SEE SHT. 4/8
FOR SECTIONS H-H, J-J, & K-K SEE SHT. 5/8

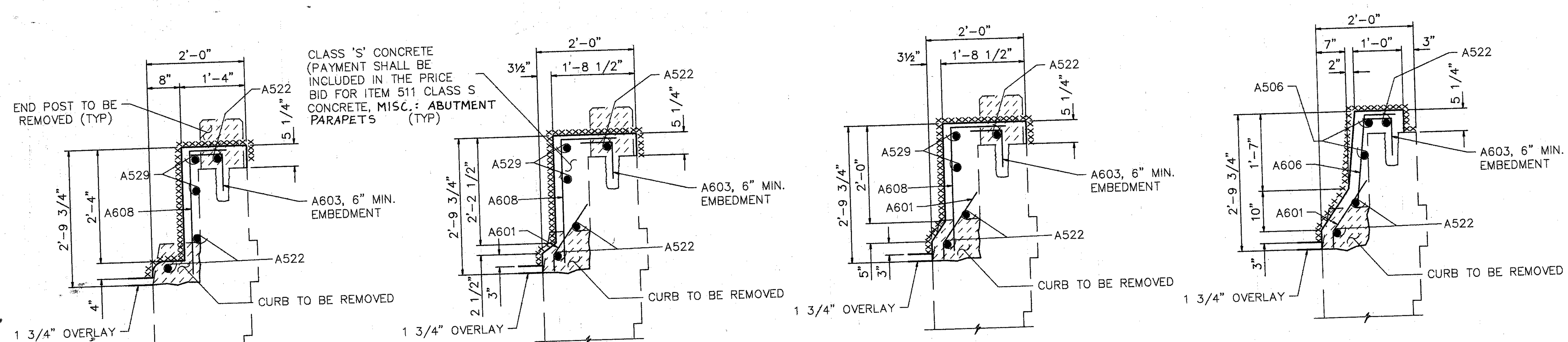
LEGEND:
- L DENOTES LEFT SIDE
- R DENOTES RIGHT SIDE
- RF DENOTES RIGHT FORWARD
- LF DENOTES LEFT FORWARD
- RR DENOTES RIGHT REAR
- LR DENOTES LEFT REAR
- NF DENOTES NEAR FACE
- FF DENOTES FAR FACE



PLAN – FORWARD ABUTMENT MODIFICATION

NOTES:
1. PREFORMED EXPANSION JOINT FILLER AND SEALER AT CORNERS AND SIDES OF THE APPR. SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YD. FOR THE APPROACH SLAB.
2. TYPE A WATERPROOFING AT THE BRIDGE LIMIT END OF THE WIDENED APPROACH SLAB (AS PER STD. DWG. AS-1-81) SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611 *APPROACH SLAB*.
3. LAP ALL #5 BARS IN PARAPET 2'-0".

xxxxxx SURFACES TO BE SEALED UNDER ITEM SPECIAL-SEALING OF CONCRETE SURFACES.



SECTION S-S

SECTION T-T

SECTION U-U

SECTION V-V

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2/8

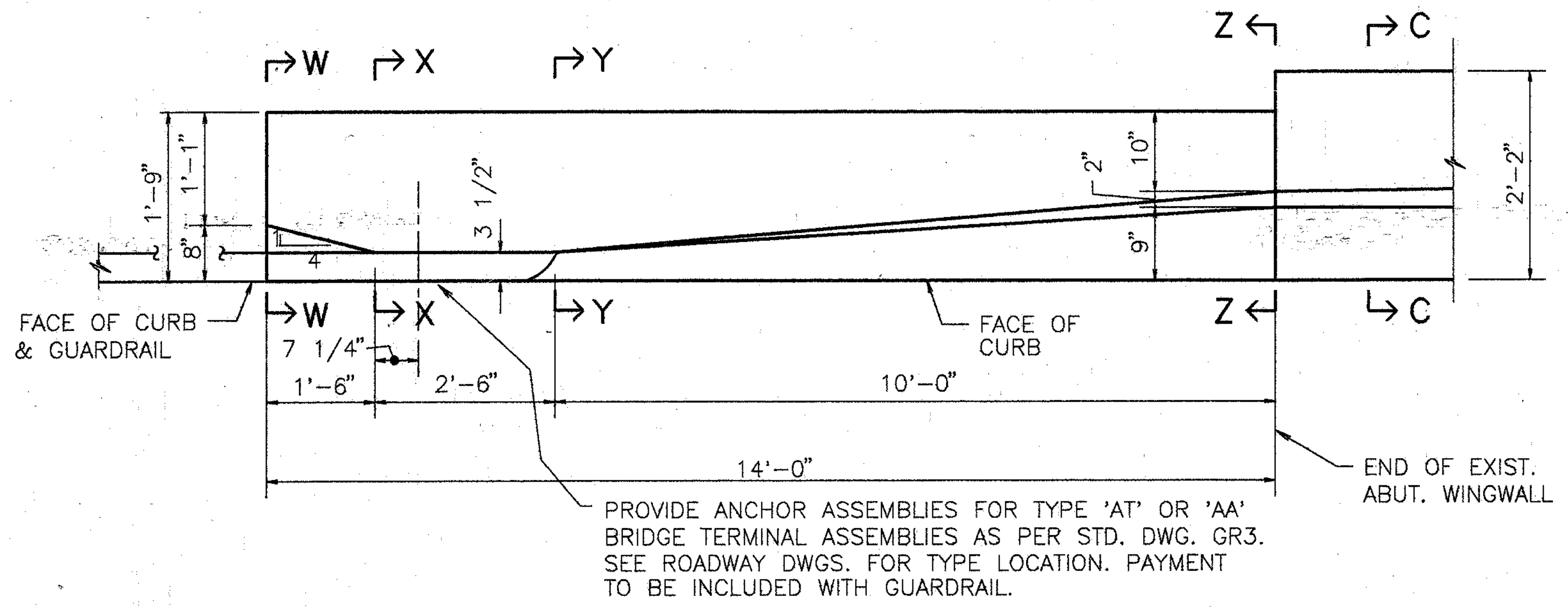
ABUTMENT PLAN & PARAPET ELEVATIONS

BRIDGE NO. HAM-42-0257R
OVER N.B. READING ROAD

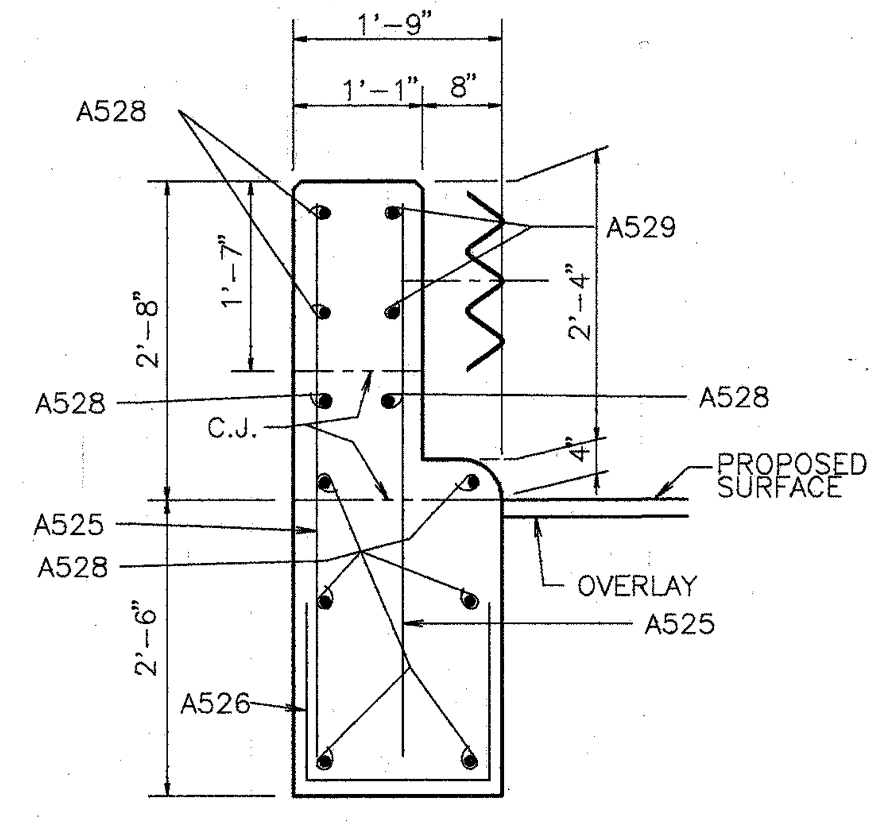
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 11/11/94	

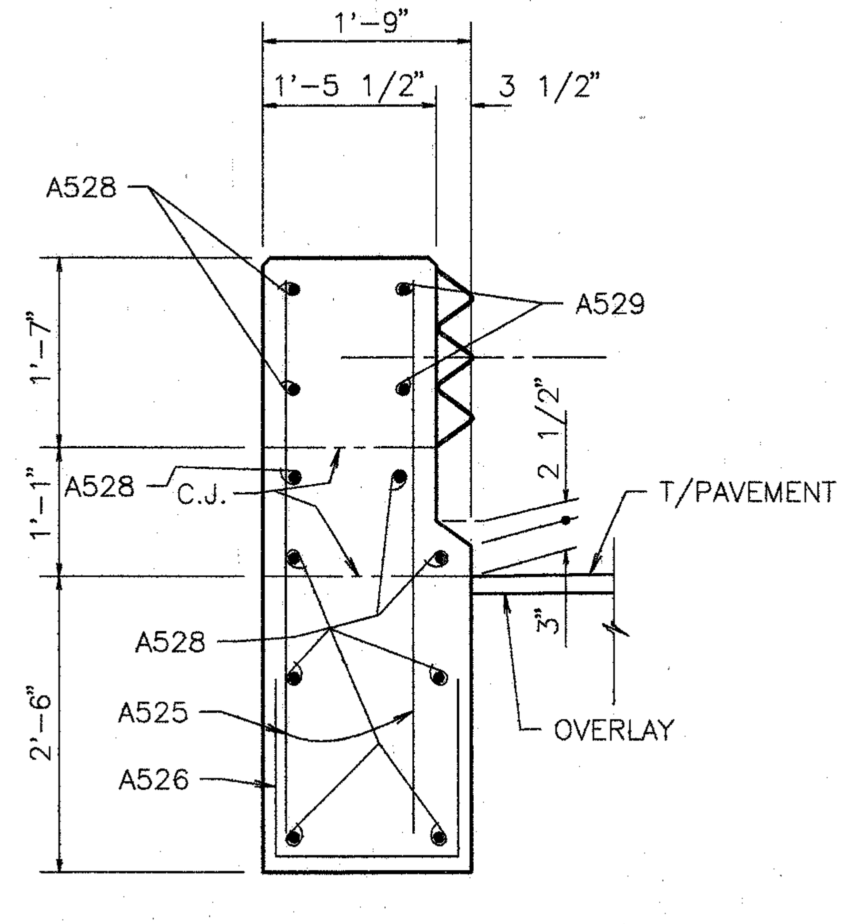
Last Plot: MAY 15, 1991 @ 5:12 PM Last Revision By: RACH JUL 15, 1994 @ 4:54 PM



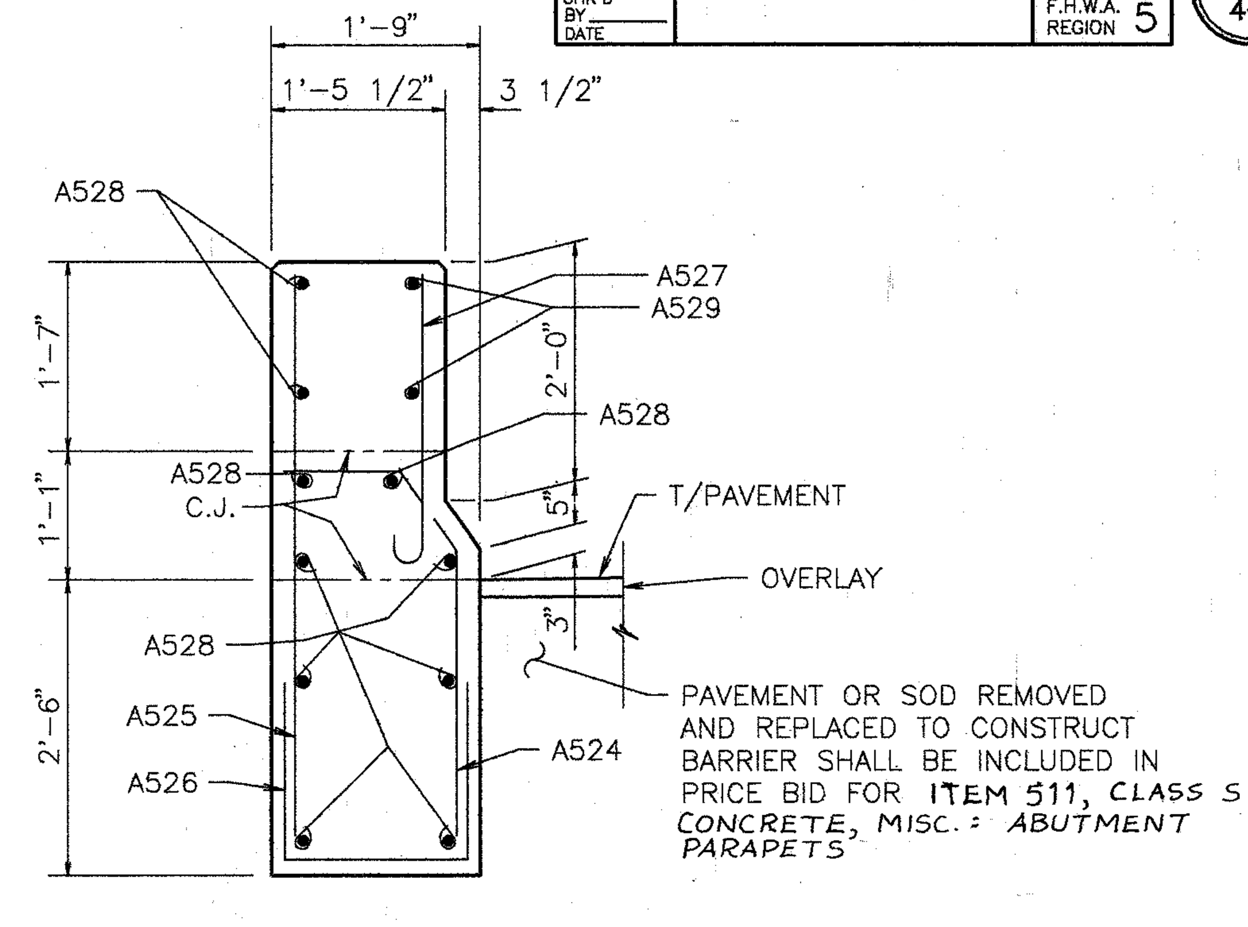
PLAN - ABUTMENT MODIFICATION-LEFT REAR



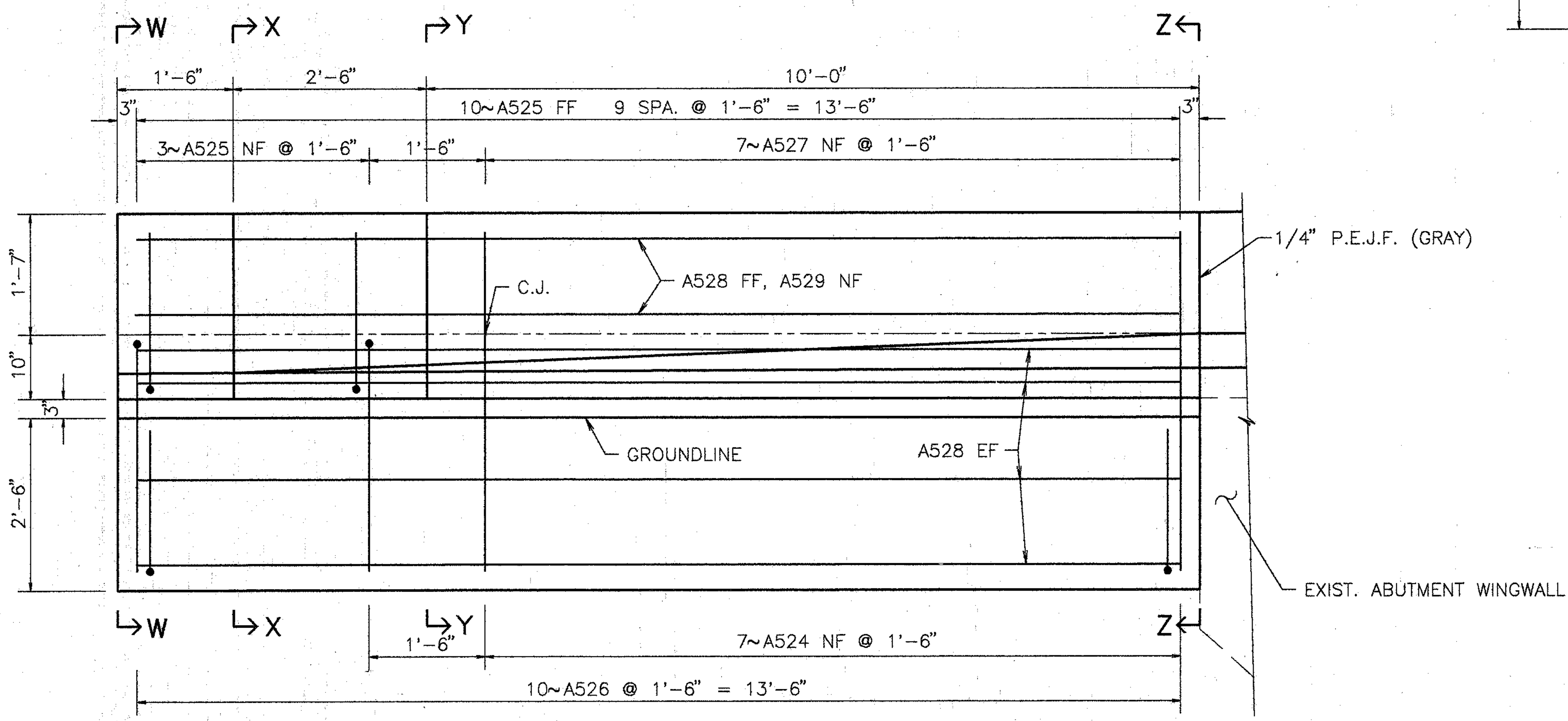
SECTION W-W



SECTION X-X

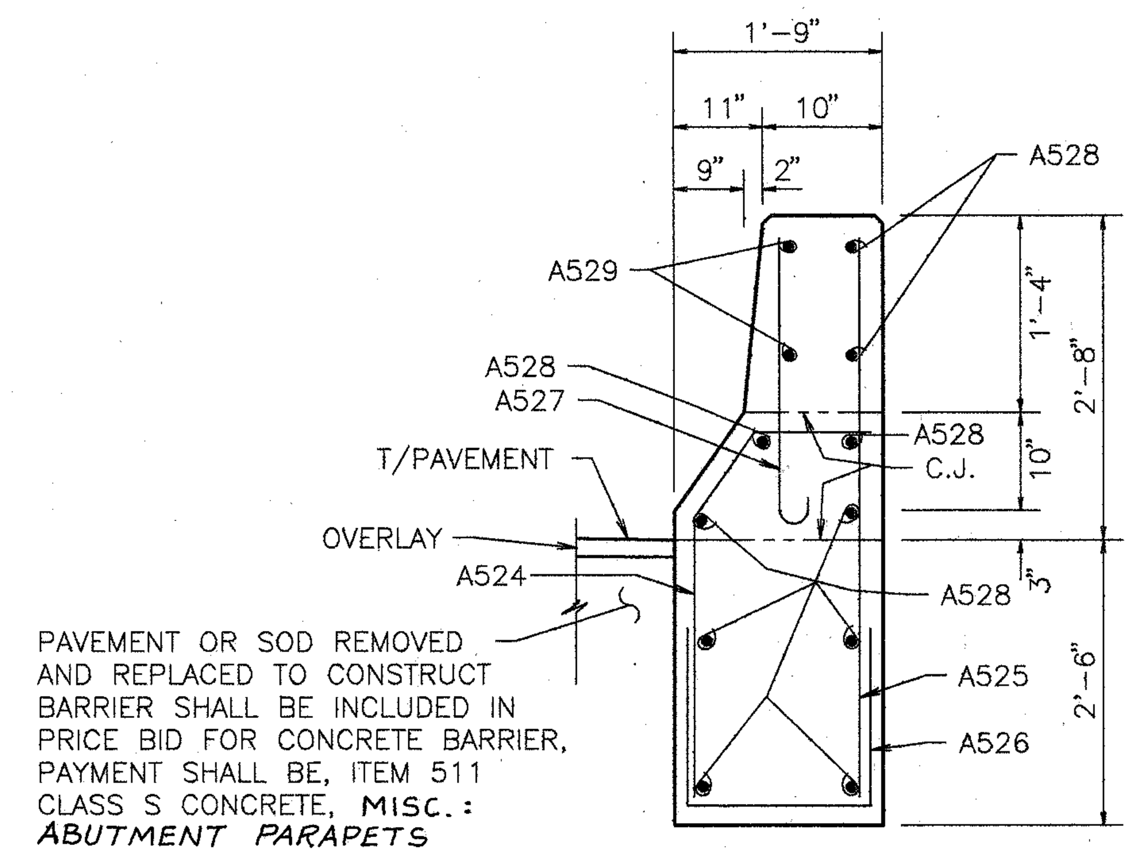


SECTION Y-Y

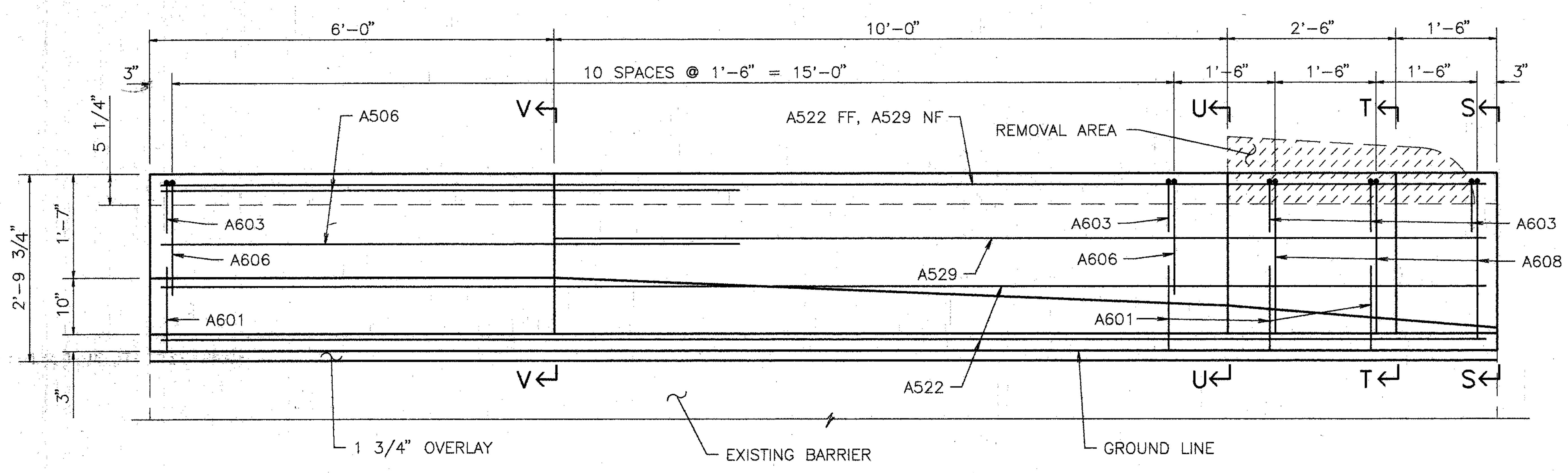


ELEVATION - ABUTMENT MODIFICATION-LEFT REAR

† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONCRETE REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.



SECTION Z-Z



ELEVATION - ABUTMENT MODIFICATION-LEFT FORWARD

FOR SECTIONS S-S, T-T, U-U & V-V SEE SHT. 2/8

NOTES:

THE PRICE BID PER CUBIC YARD FOR ITEM 511, CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS SHALL INCLUDE CLASS S CONCRETE, BACKFILL, REPLACING PORTIONS OF THE END OF EXISTING PARAPETS, AND OTHER WORK INCIDENTAL THERETO.

EPOXY COATED REINFORCING STEEL SHALL BE INCLUDED IN ITEM 509, 'EPOXY COATED REINFORCING STEEL, GRADE 60'.

EXISTING PARAPET TO BE REMOVED AND EXCAVATION SHALL BE INCLUDED IN ITEM 202 - PORTIONS OF STRUCTURE REMOVED.

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DAYTON, OHIO 45402-1226
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3/8

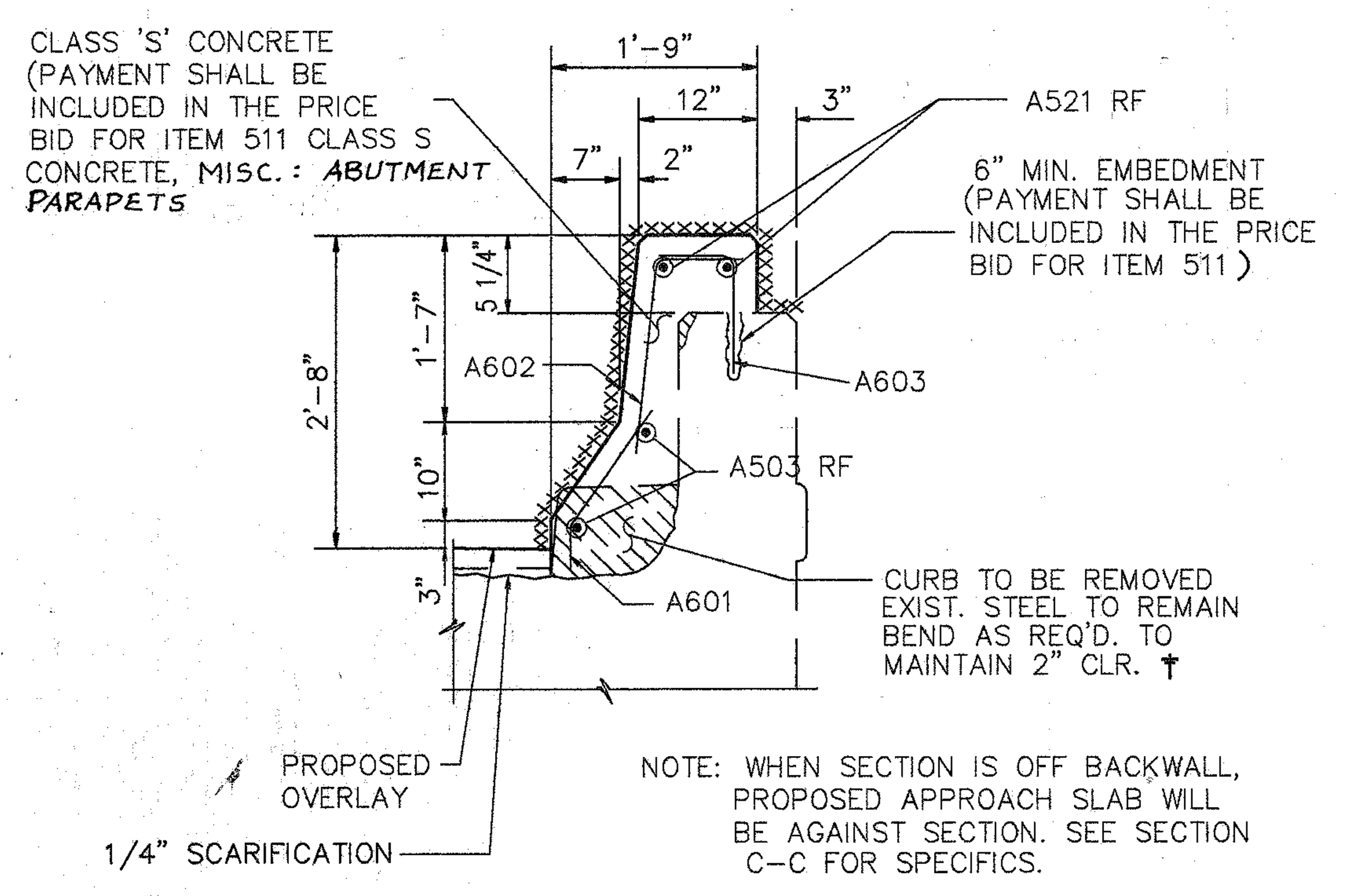
PARAPET SECTIONS

BRIDGE NO. HAM-42-0257R
OVER INTERSTATE ROUTE 71

HAMILTON COUNTY

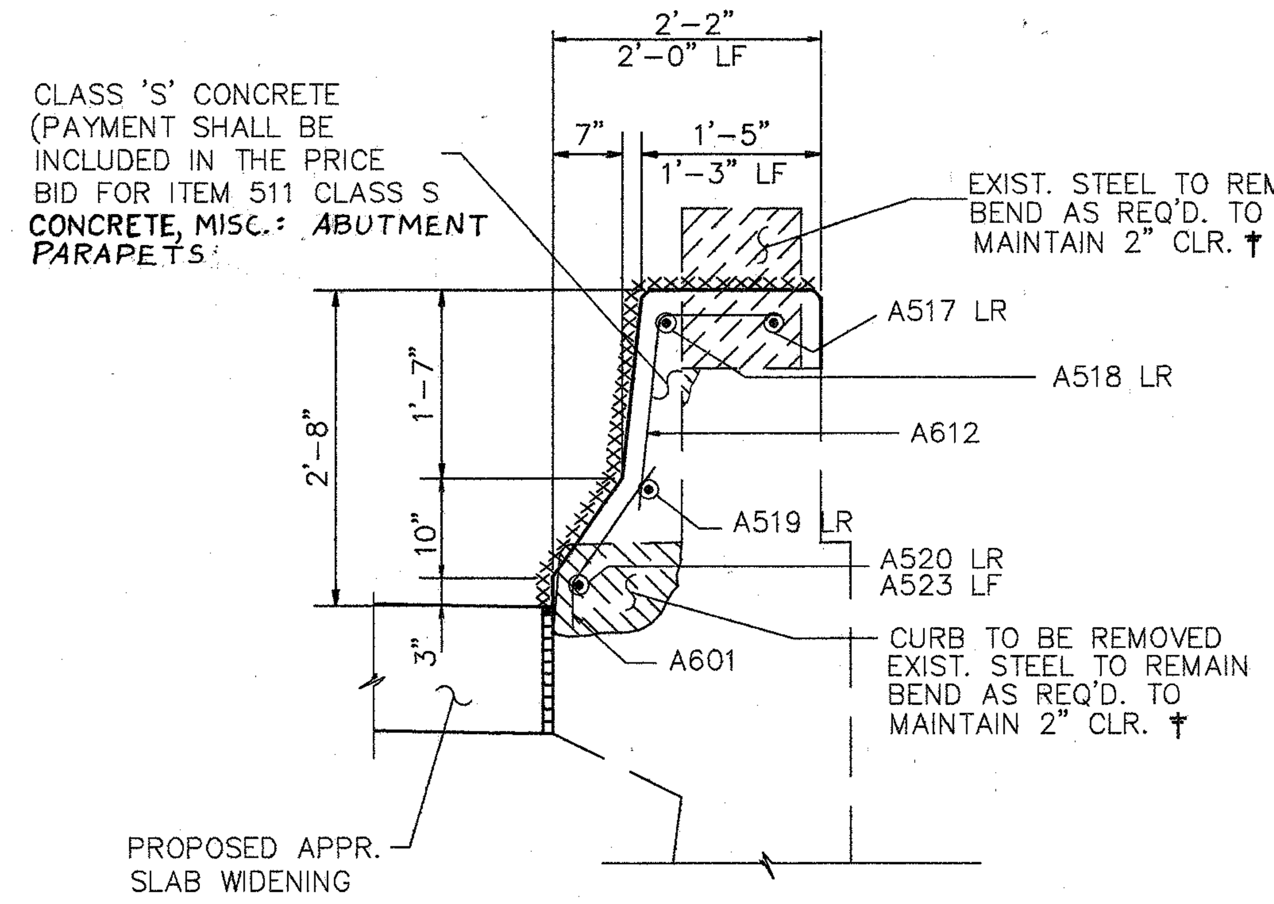
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	1/11/94	

Last Plot: MAY 15, 1991 @ 7:30 PM Last Revision By: RACH JUL 15, 1994 @ 9:35 AM



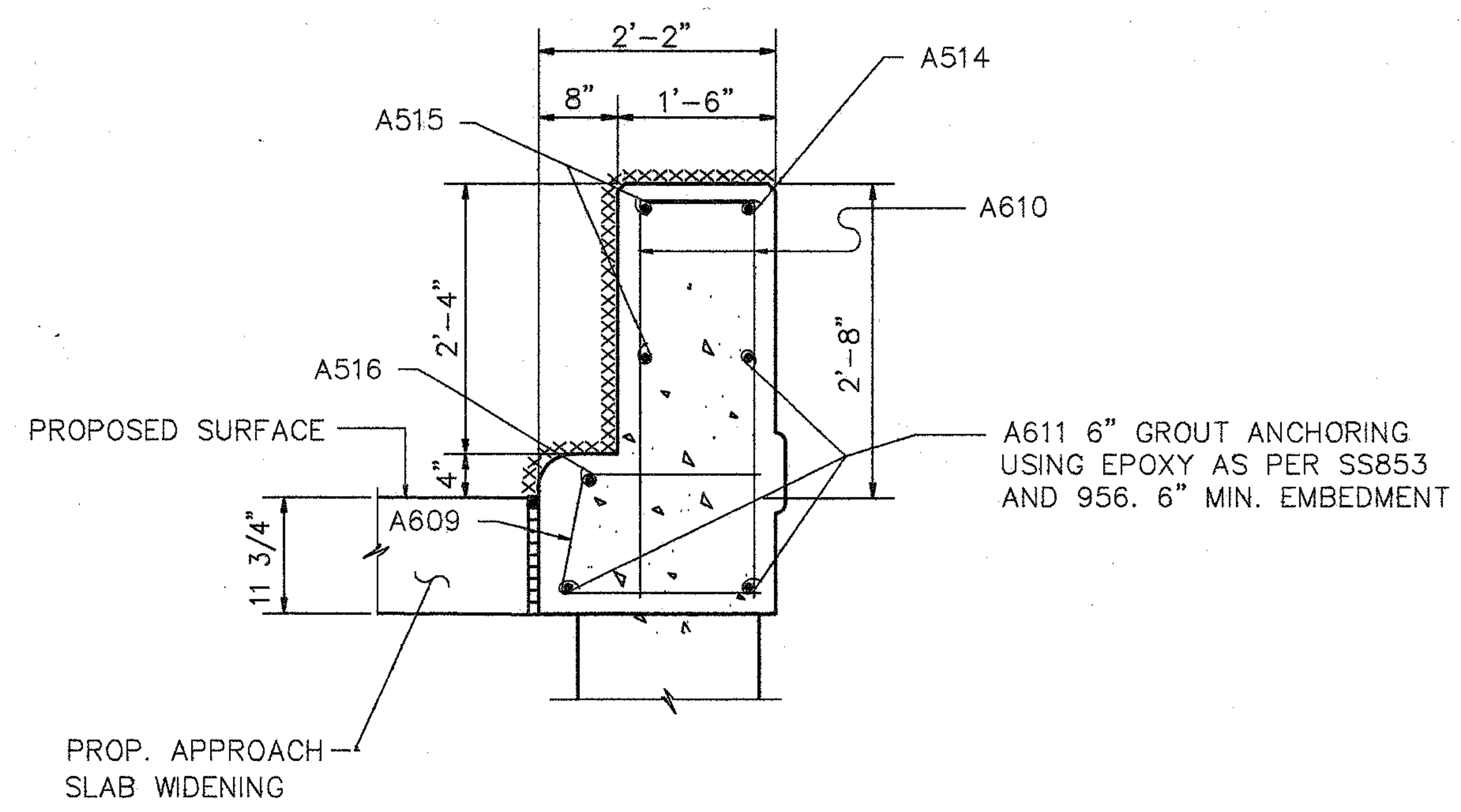
NOTE: WHEN SECTION IS OFF BACKWALL, PROPOSED APPROACH SLAB WILL BE AGAINST SECTION. SEE SECTION C-C FOR SPECIFICS.

SECTION B-B



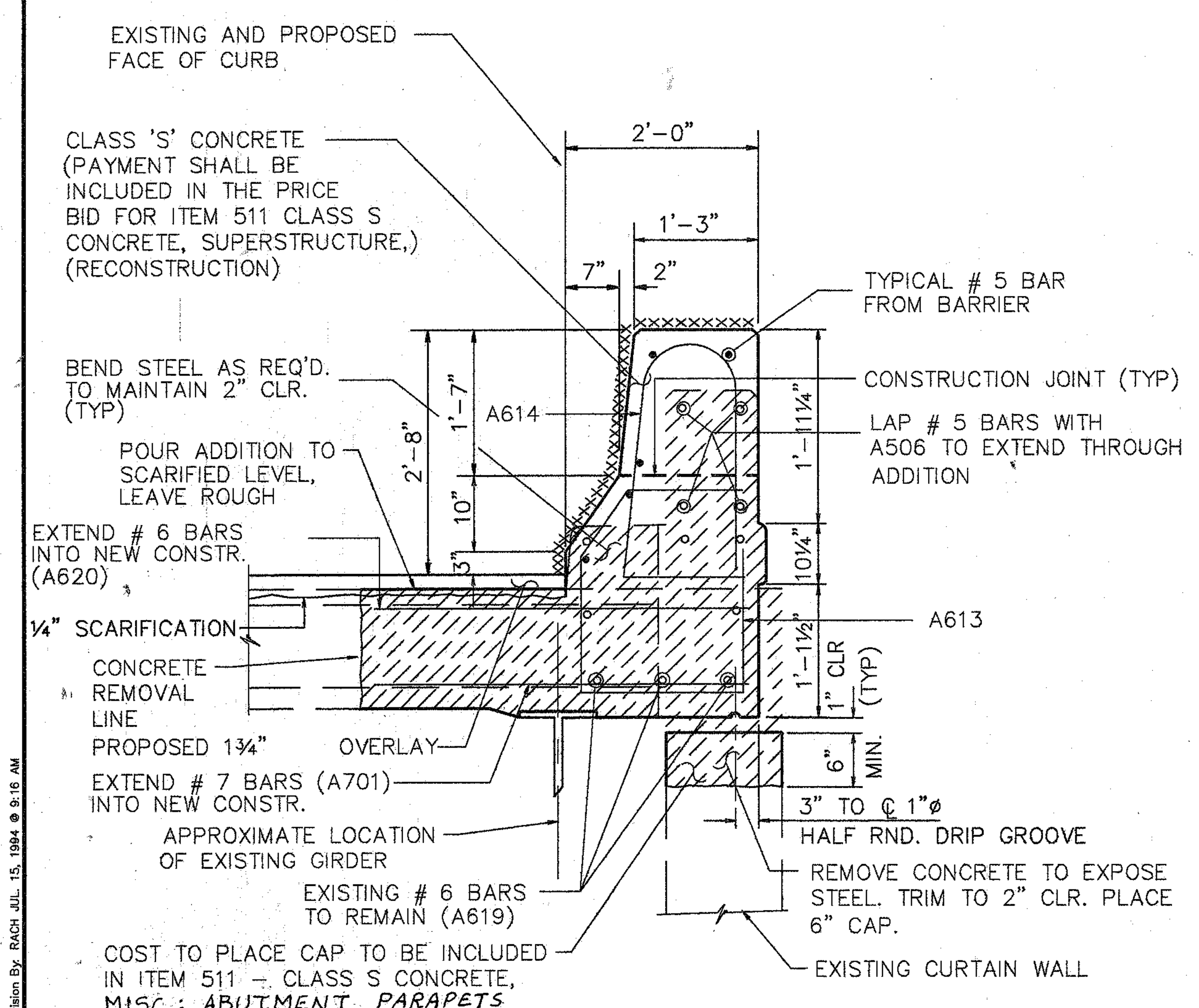
SECTION C-C

NOTE:
WHEN SECTION IS ON BACKWALL, EXISTING BACKWALL WILL BE AGAINST SECTION. SEE SECTION B-B FOR SPECIFICS.



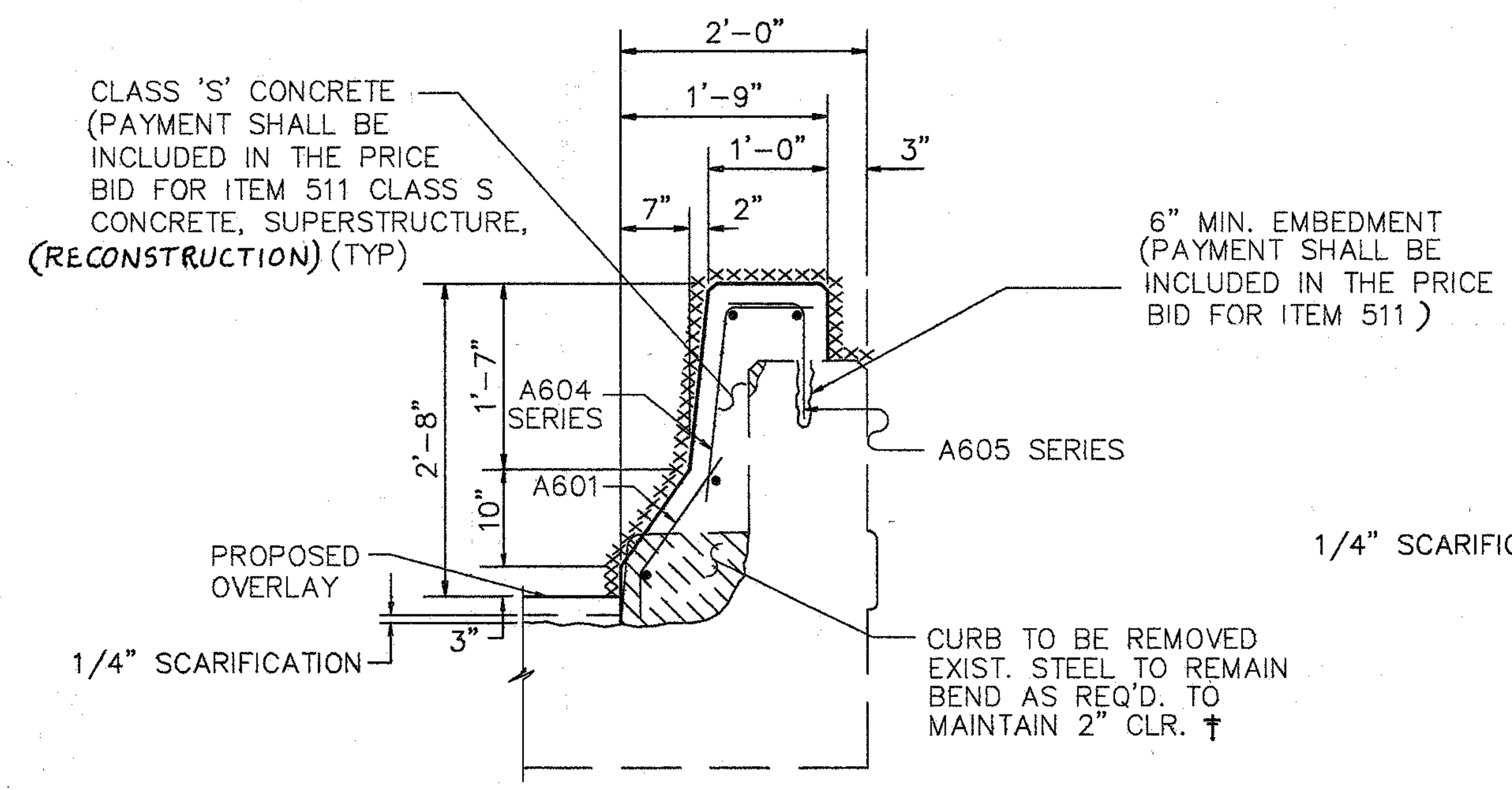
SECTION D-D

† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONCRETE REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE COTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.

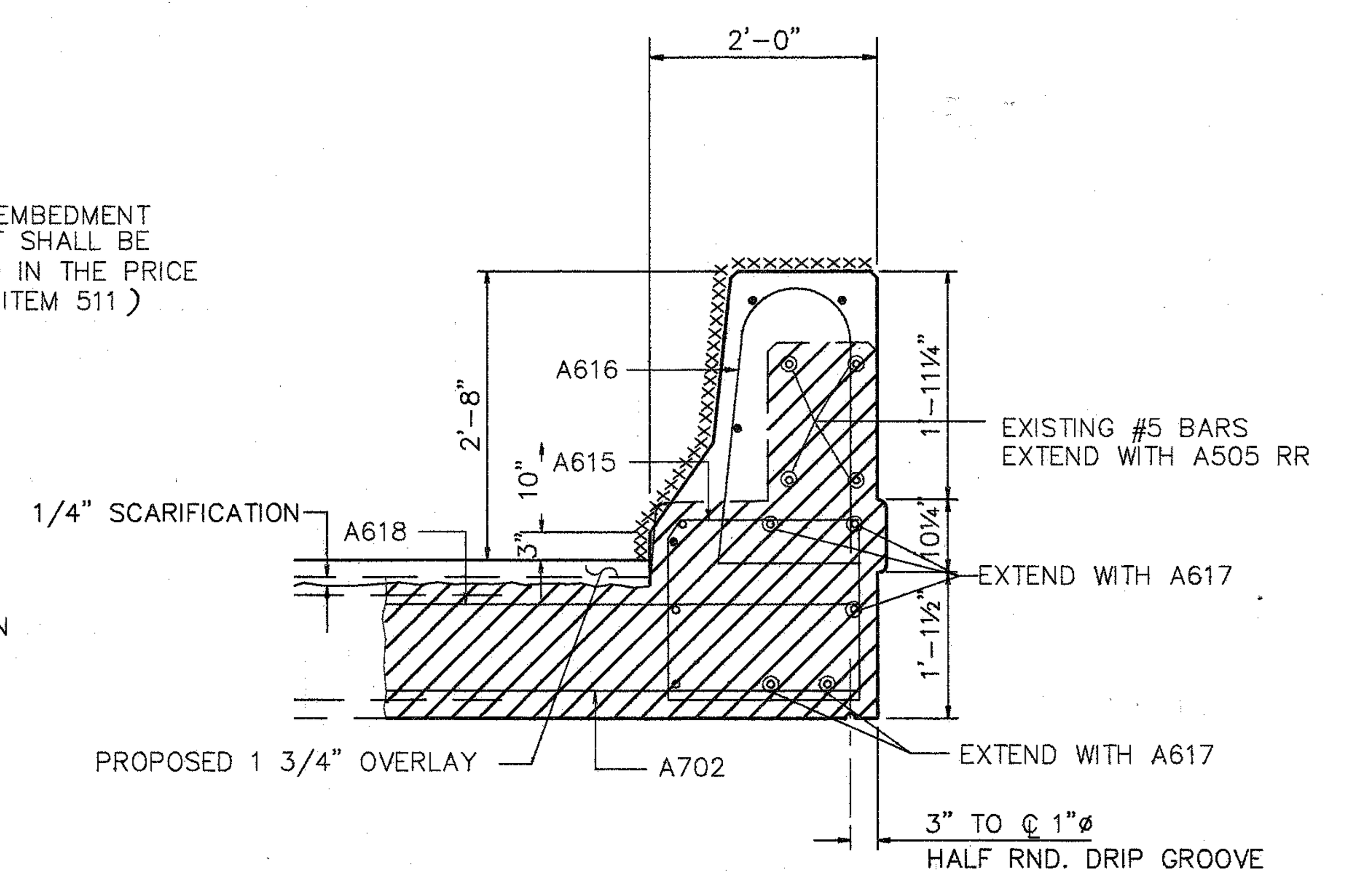


SECTION E-E

NOTE : COST FOR WORK TO RECONSTRUCT BRIDGE DECK AND PARAPET SHALL BE INCLUDED IN ITEM 511 - CLASS S CONCRETE, SUPERSTRUCTURE, (RECONSTRUCTION). REINFORCING STEEL IS INCLUDED IN ITEM 509 - EPOXY COATED REINFORCING STEEL, GRADE 60, FOR PAYMENT.



SECTION F-F



SECTION G-G

SEE NOTES SECTION E-E THIS SHEET

NOTE : SECTION G-G IS LOCATED WITHIN 10'-0" TAPER FOR GUARDRAIL TERMINAL ASSEMBLY. TAPER OCCURS BETWEEN SECTION F-F AND SECTION J-J.

EXISTING CURB AND PARAPET TO BE REMOVED UNDER ITEM 202-PORTIONS OF STRUCTURES REMOVED.

EXISTING RAILING & POSTS TO BE REMOVED & STACKED NEATLY ALONG THE RIGHT OF WAY FOR DISPOSAL BY THE CONTRACTOR. ALL WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202-PORTIONS OF STRUCTURE REMOVED.

xxxxxx SURFACES TO BE SEALED UNDER ITEM SPECIAL-SEALING OF CONCRETE SURFACES.

NOTES:
1. PREFORMED EXPANSION JOINT FILLER AND SEALER AT CORNERS AND SIDES IF THE APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YD. FOR THE APPROACH SLAB.
2. TYPE A WATERPROOFING AT THE BRIDGE LIMIT END OF THE WIDENING APPROACH SLAB (AS PER STD. DWG. AS-1-81) SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611 APPROACH SLAB.

FOR SECTIONS NOT SHOWN ON THIS SHEET SEE SHEET 5&7/8

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DAYTON, OHIO 45402-1226
(513) 461-5660

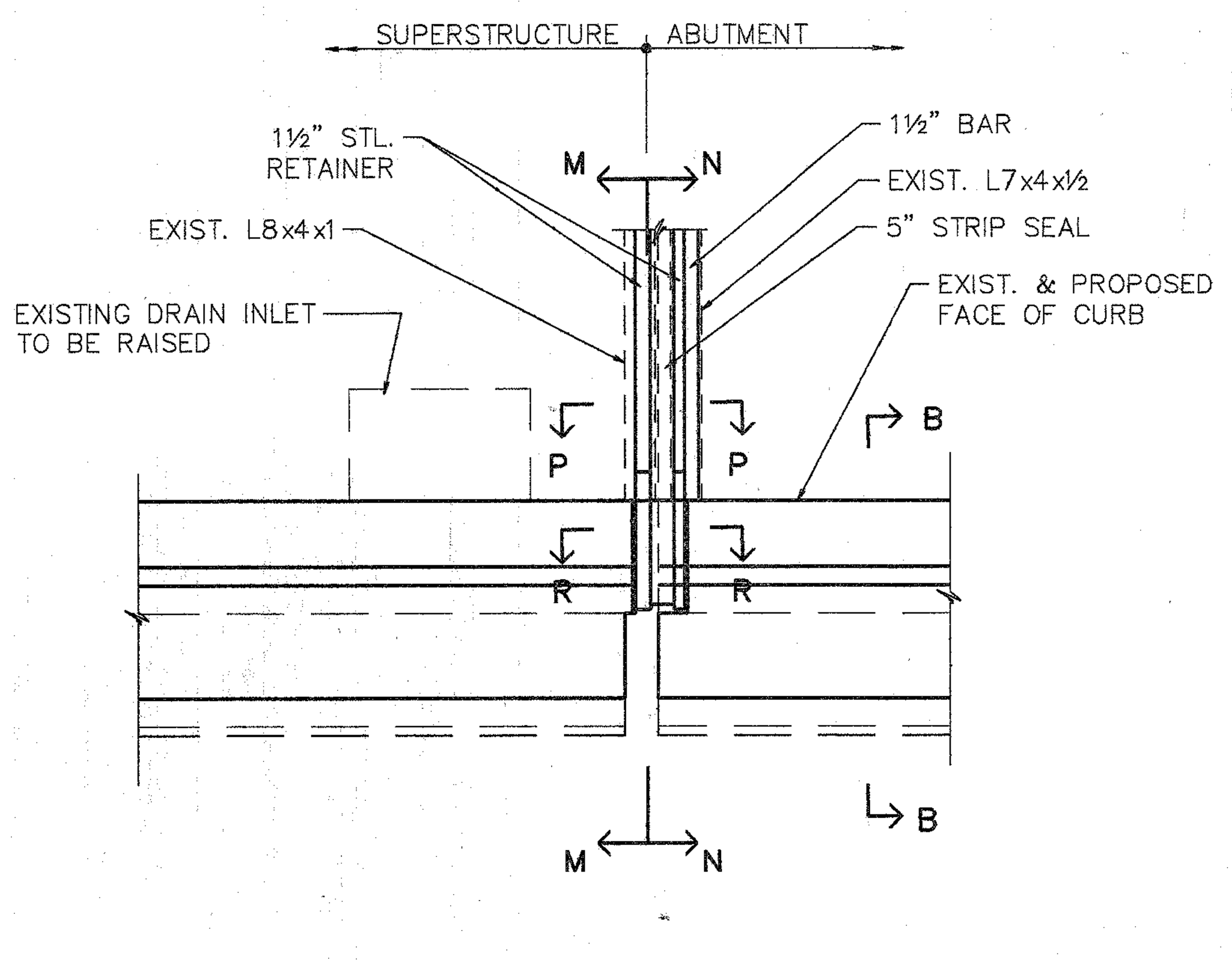
4/8

PARAPET SECTIONS AND DETAILS

BRIDGE NO. HAM-42-0257 R
OVER I-71

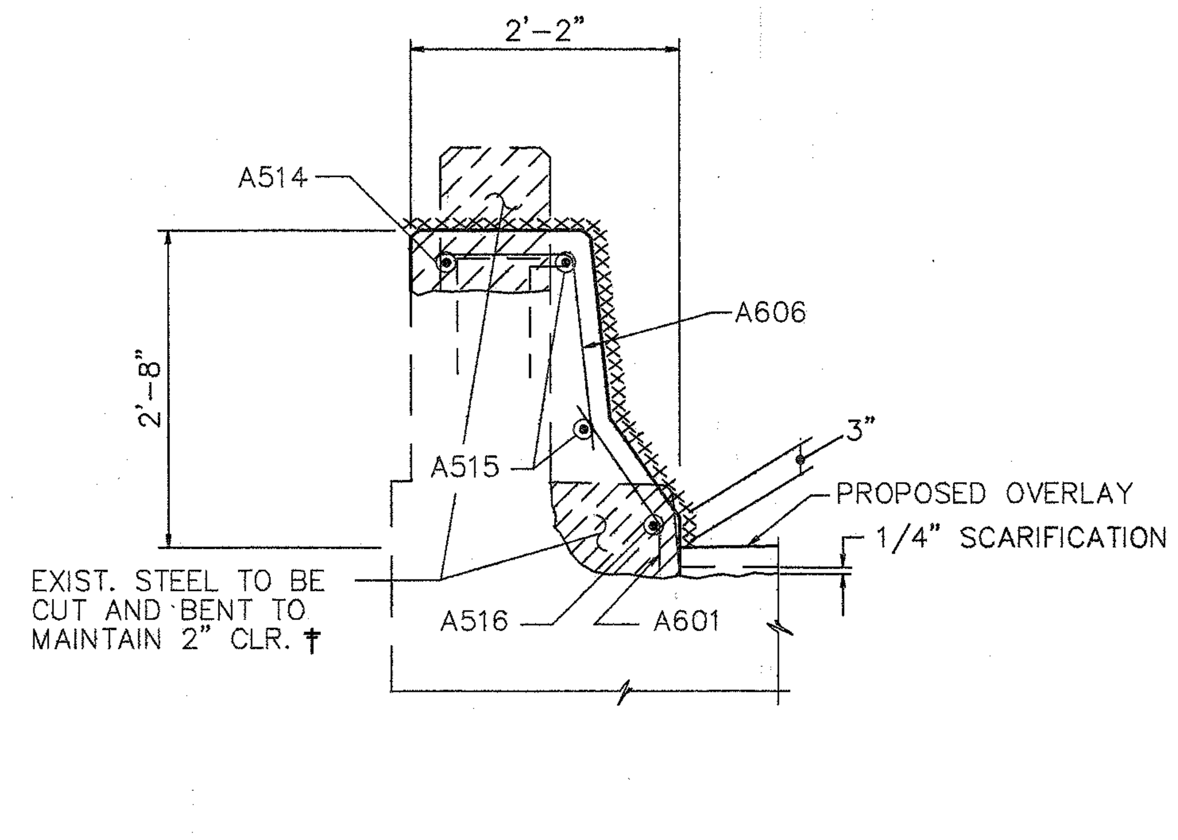
HAMILTON

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	11/11/94	



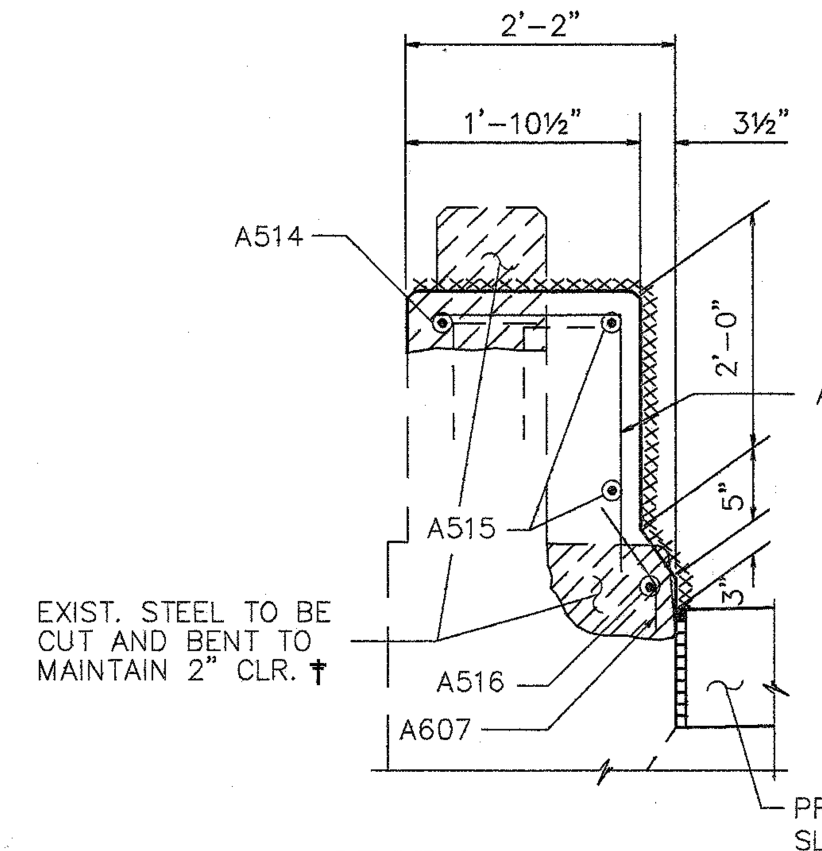
EXP. JT. PART PLAN @ FORWARD ABUTMENT (RIGHT)

RIGHT PARAPET SHOWN, LEFT PARAPET OPPOSITE HAND (NO DRAIN INLET)

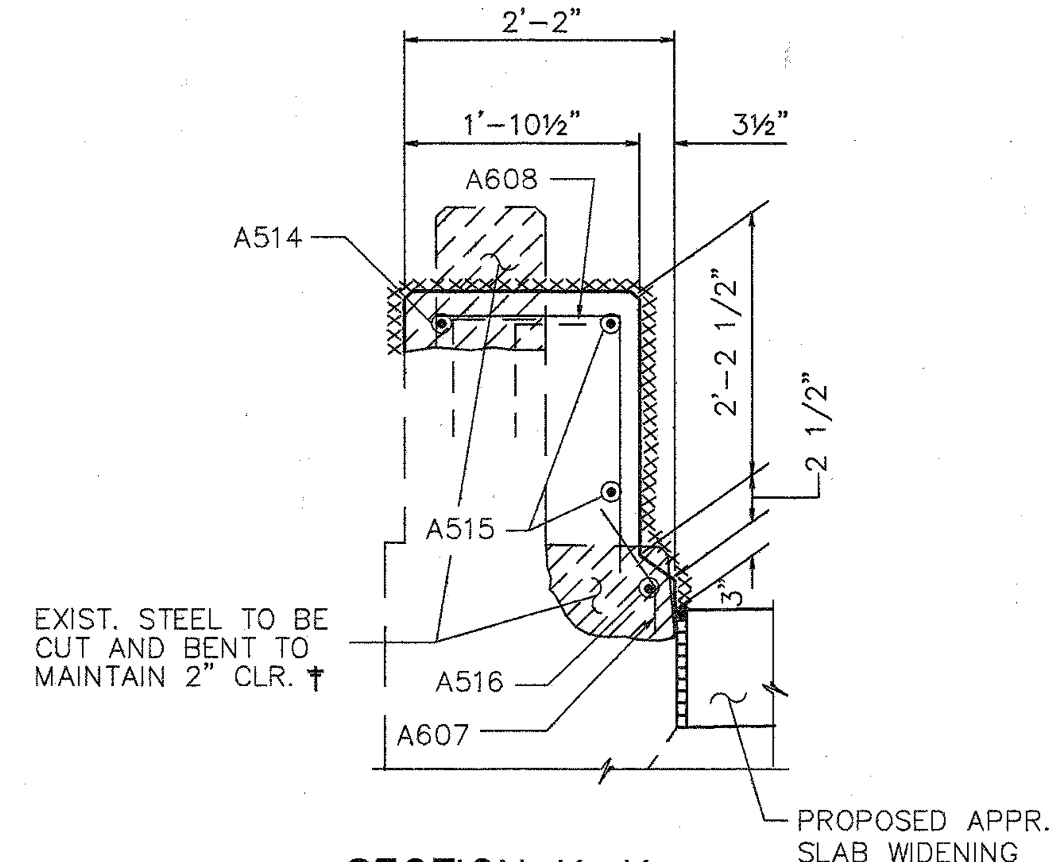


SECTION H-H

NOTE: SECTION H-H IS LOCATED WITHIN 10'-0" TAPER FOR GUARDRAIL TERMINAL ASSEMBLY. TAPER OCCURS BETWEEN SECTION F-F AND SECTION J-J.

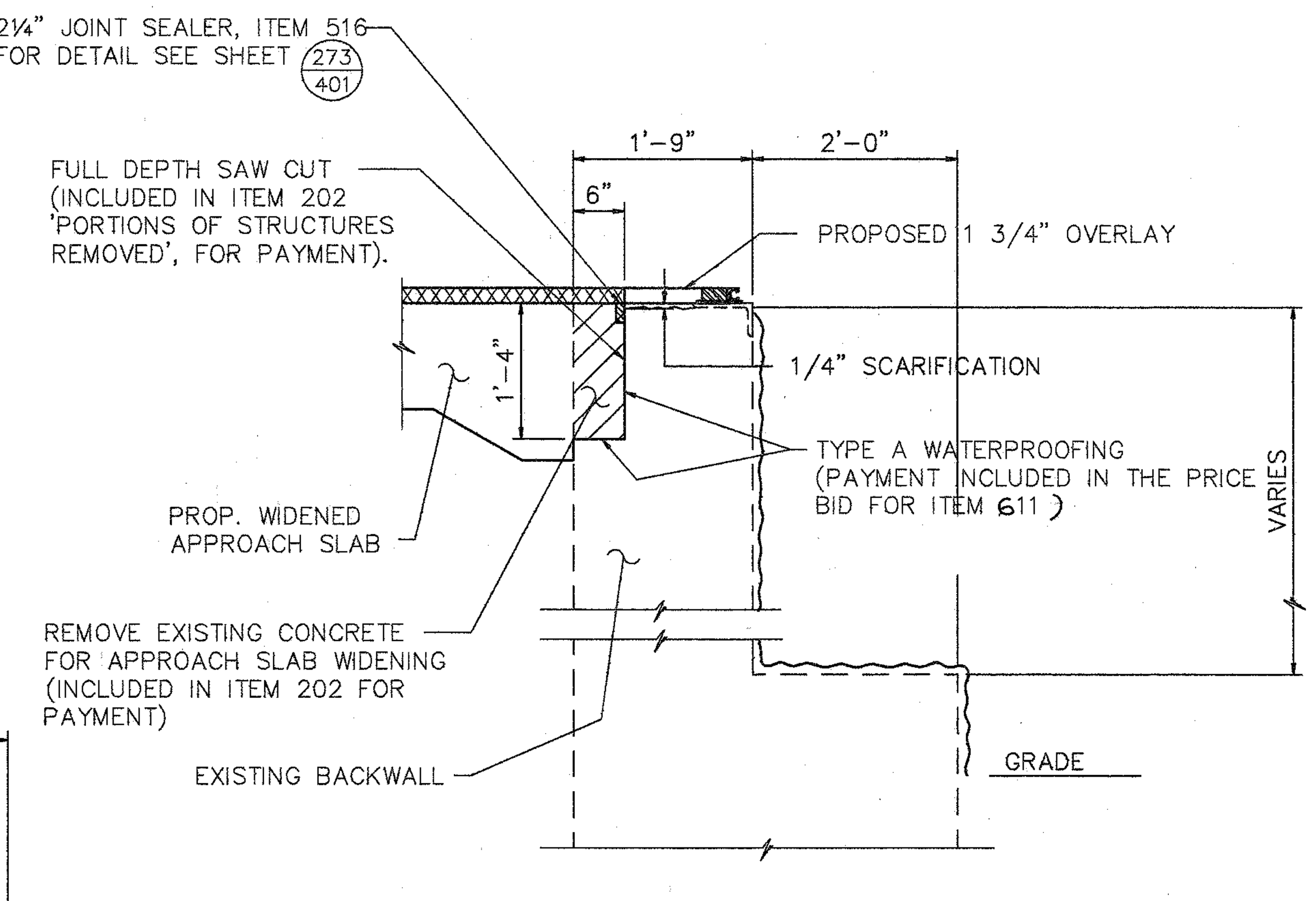


SECTION J-J



SECTION K-K

† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONCRETE REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE COTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.



SECTION L-L

SURFACE TO BE SEALED UNDER ITEM SPECIAL-'SEALING OF CONCRETE SURFACE, EPOXY'.

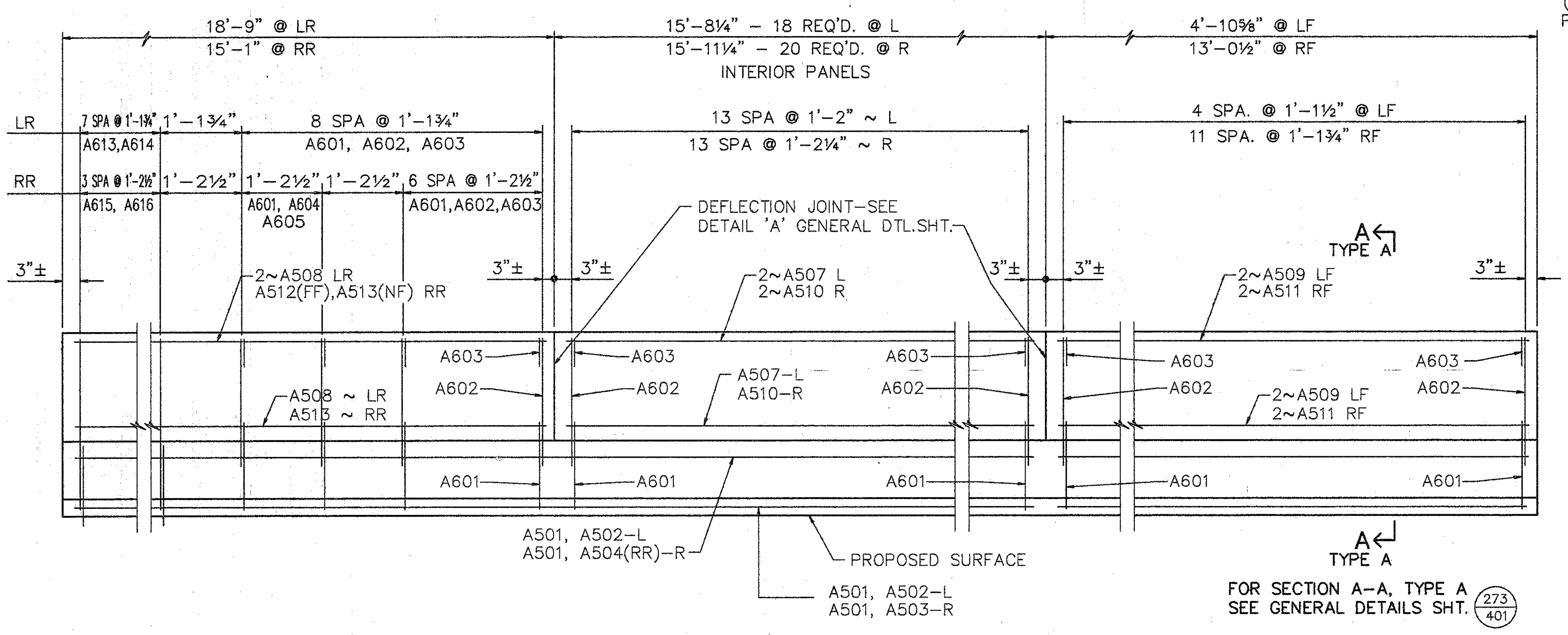
EXISTING CURB AND PARAPET TO BE REMOVED UNDER ITEM 202-PORTIONS OF STRUCTURES REMOVED.

EXISTING RAILING & POSTS TO BE REMOVED & STACKED NEATLY ALONG THE RIGHT OF WAY FOR DISPOSAL BY THE CONTRACTOR. ALL WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202-PORTIONS OF STRUCTURE REMOVED.

xxxxxx SURFACES TO BE SEALED UNDER ITEM SPECIAL-SEALING OF CONCRETE SURFACES.

NOTES:

1. PREFORMED EXPANSION JOINT FILLER AND SEALER AT CORNERS AND SIDES IF THE APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YD. FOR THE APPROACH SLAB.
2. TYPE A WATERPROOFING AT THE BRIDGE LIMIT END OF THE WIDENING APPROACH SLAB (AS PER STD. DWG. AS-1-81) SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611 APPROACH SLAB.



FOR SECTION A-A, TYPE A SEE GENERAL DETAILS SHT. 273/401

FOR SECTIONS NOT SHOWN ON THIS SHEET SEE SHEET 3,4,&7/8

ELEVATION SUPERSTRUCTURE PARAPET

LEGEND:

L DENOTES LEFT SIDE
R DENOTES RIGHT SIDE
RF DENOTES RIGHT FORWARD
LF DENOTES LEFT FORWARD
RR DENOTES RIGHT REAR
LR DENOTES LEFT REAR
NF DENOTES NEAR FACE
FF DENOTES FAR FACE

FOR SECTIONS NOT SHOWN ON THIS SHEET SEE SHEET 3&6/7

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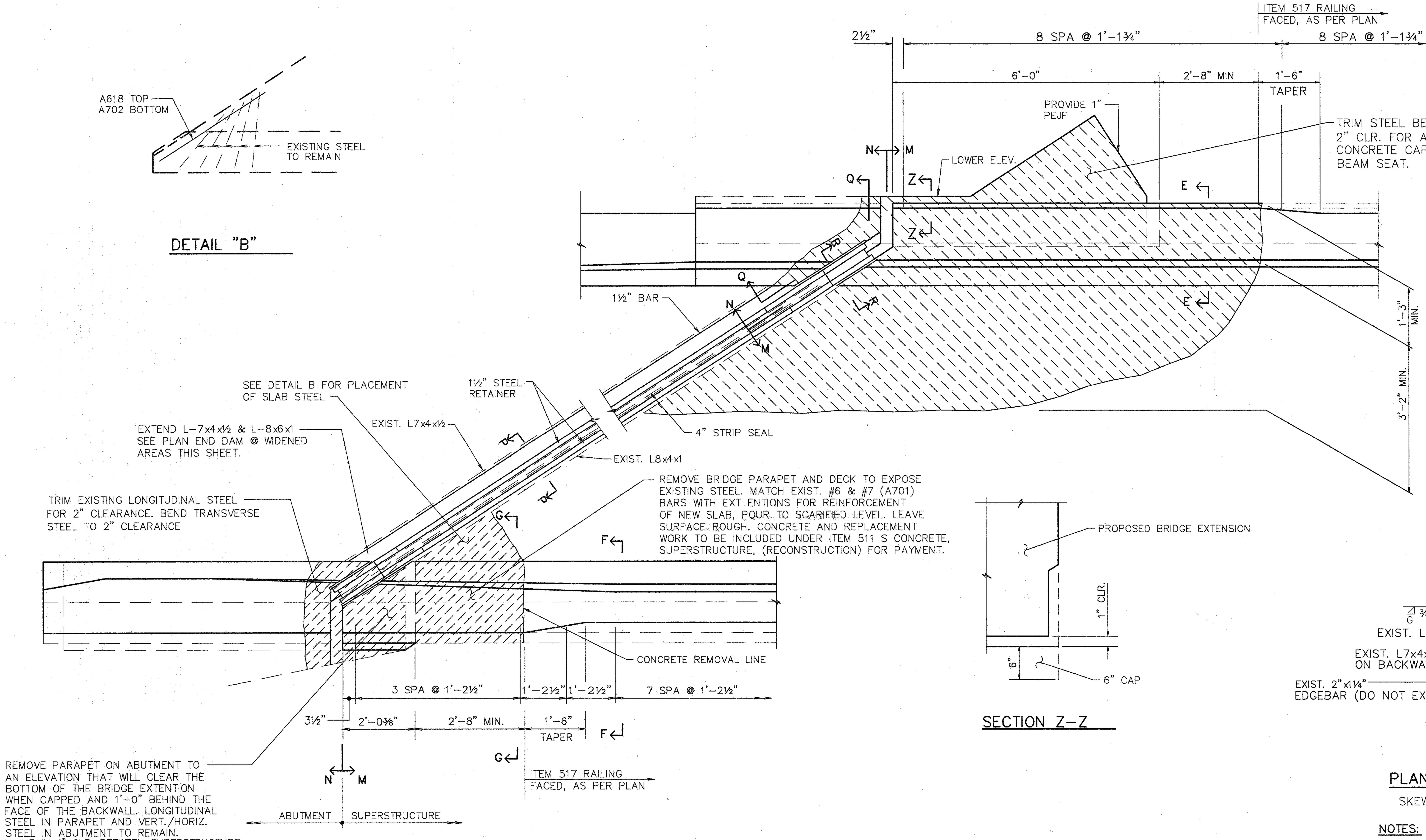
5/8

PARAPET ELEVATION, SECTIONS AND DETAILS

BRIDGE NO. HAM-42-0257 R
OVER I-71

HAMILTON

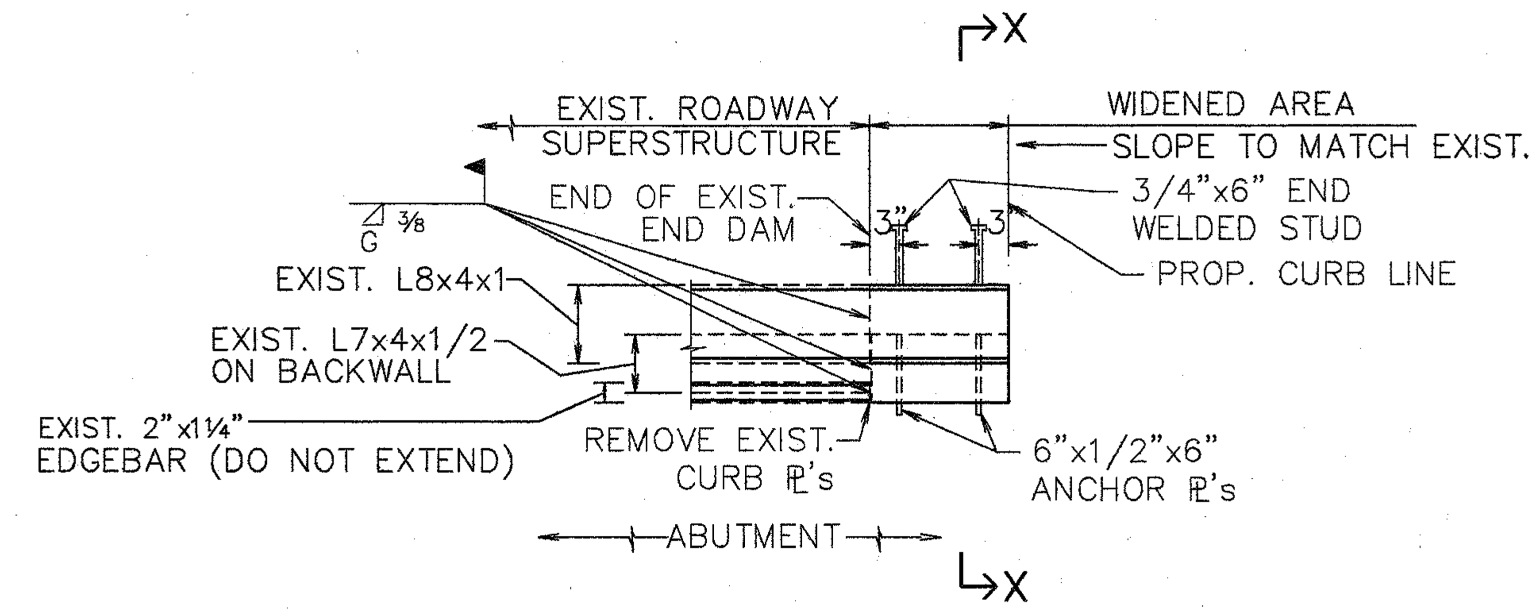
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 11/11/94	



DETAIL "B"

PART PLAN @ REAR ABUTMENT

SECTION Z-Z



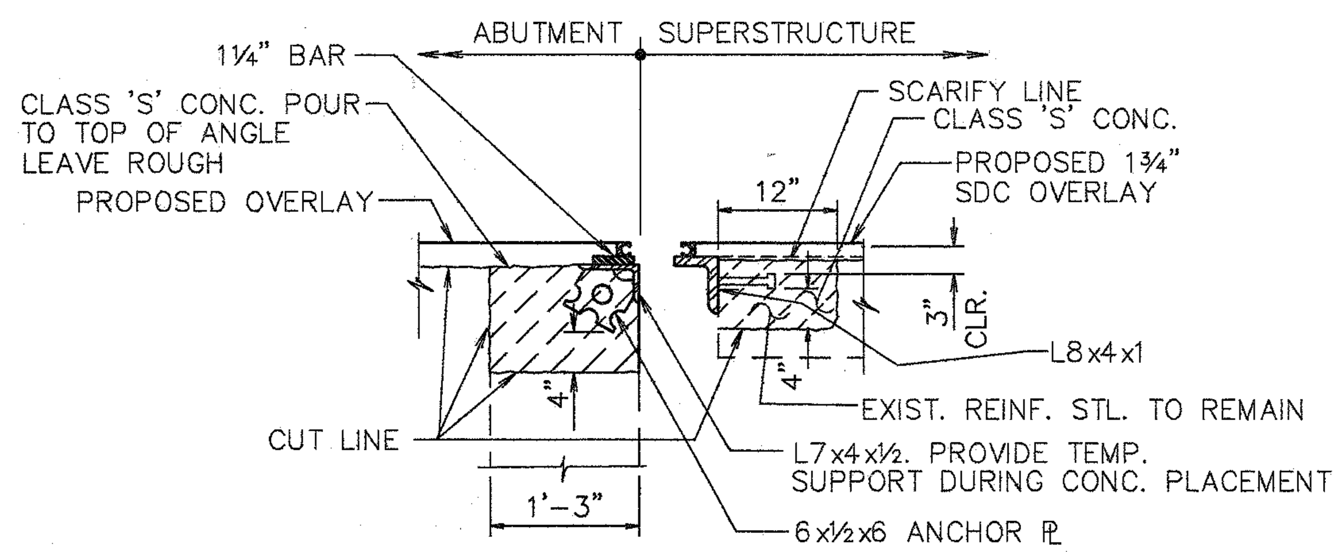
PLAN END DAM @ WIDENED AREAS

SKEW NOT SHOWN

NOTES:

- FOR DETAILS & DIMS. NOT SHOWN SEE STD. DWG. SD-1-69.

FOR SECTIONS NOT SHOWN ON THIS SHEET SEE 4,5,&7 / 8



NOTE:

1. FOR DETAILS NOT SHOWN SEE STD. DWG. SD-1-69.
2. SEE SECTION J-J FOR RETAINER SPACING AND WELDING

SECTION X-X

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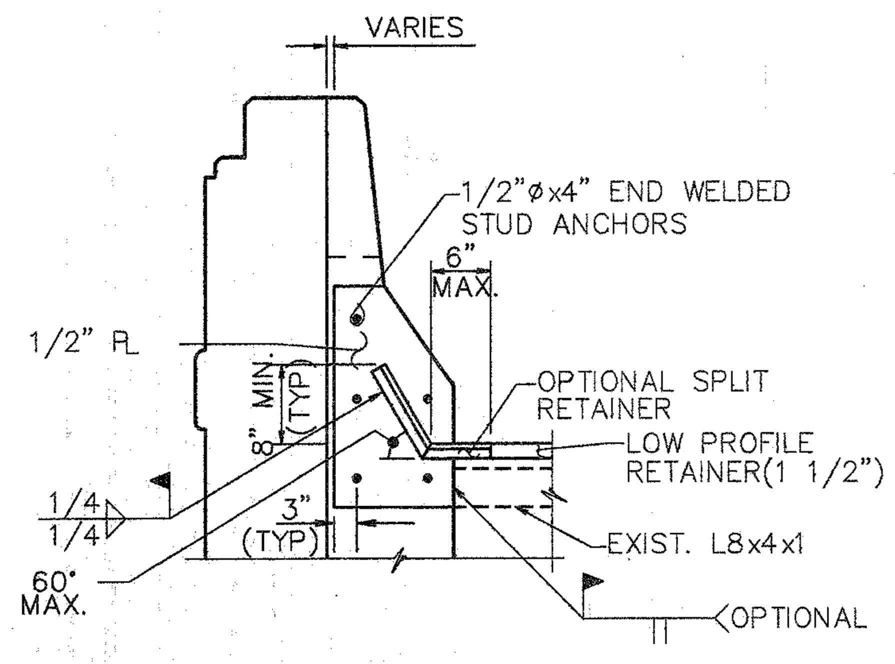
EXPANSION JOINT DETAILS

BRIDGE NO. HAM-42-0257R
OVER N.B. READING ROAD

HAMILTON COUNTY

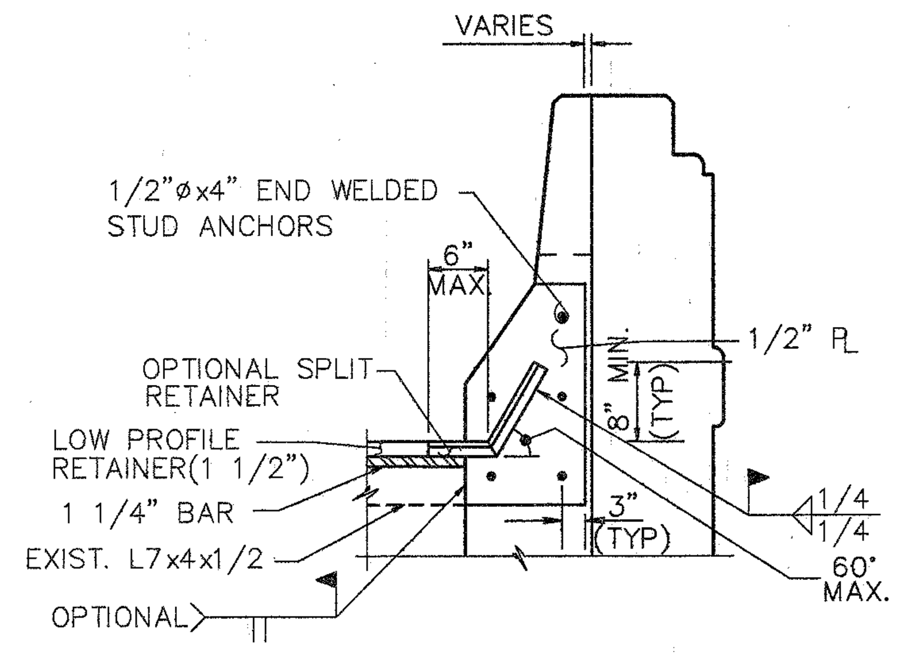
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	11/11/94	

Last Plot: MAY 15, 1991 @ 5:17 PM Last Revision By: RACH MAY 20, 1994 @ 4:27 PM



SECTION M–M

LR & RF SHOWN, LF & RR OPPOSITE HAND

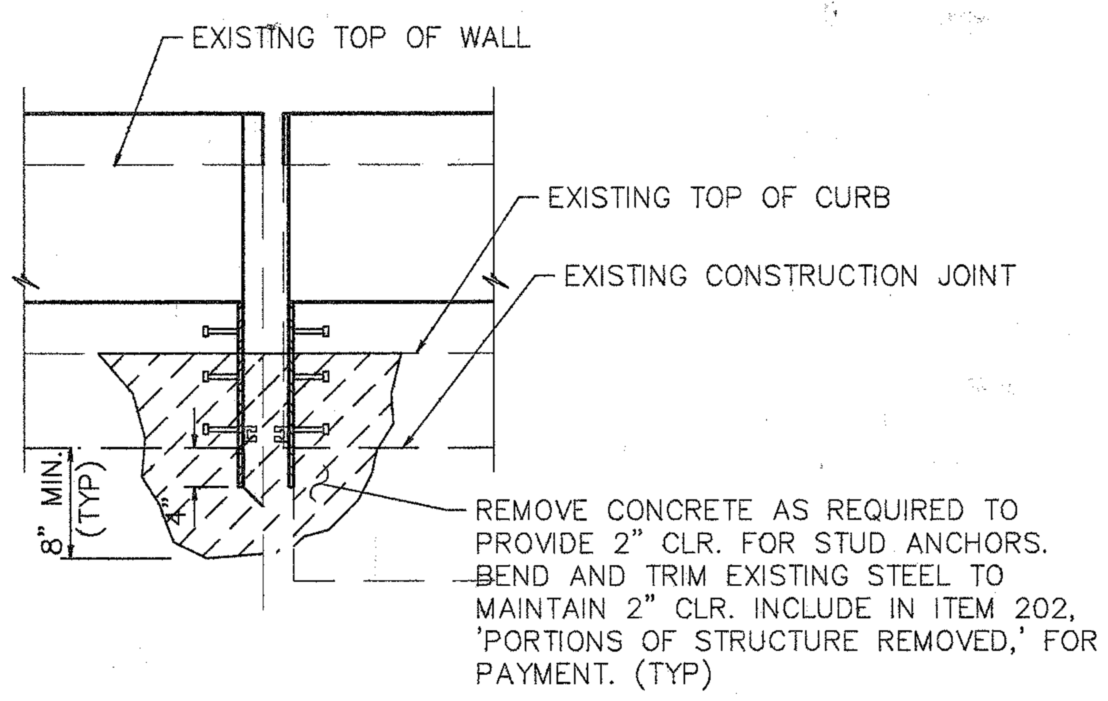


SECTION N–N

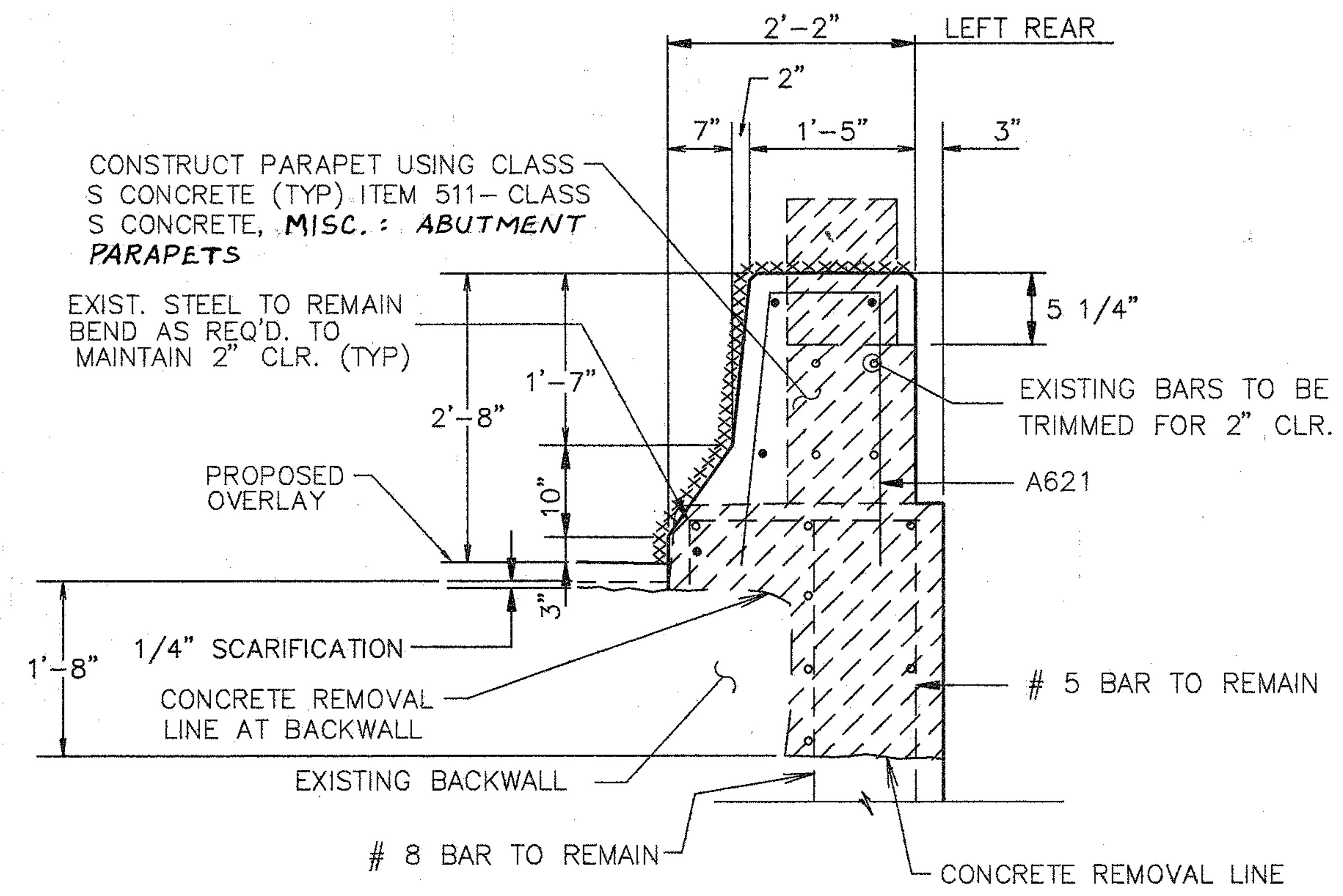
LR & RF SHOWN, LF & RR OPPOSITE HAND

NOTE:

1. EXPANSION JT. DETAILS TO BE WORKED WITH STD. DWG. EXJ-4-87 SHTS. 1 thru 5.
2. WHEN PLATE IS RECESSED INTO ABUTMENT, CONCRETE BELOW PLATE SHALL BE SLOPED FROM BOTTOM OF THE PLATE TO THE END OF THE ABUTMENT TO DETER THE ACCUMULATION OF DEBIS.

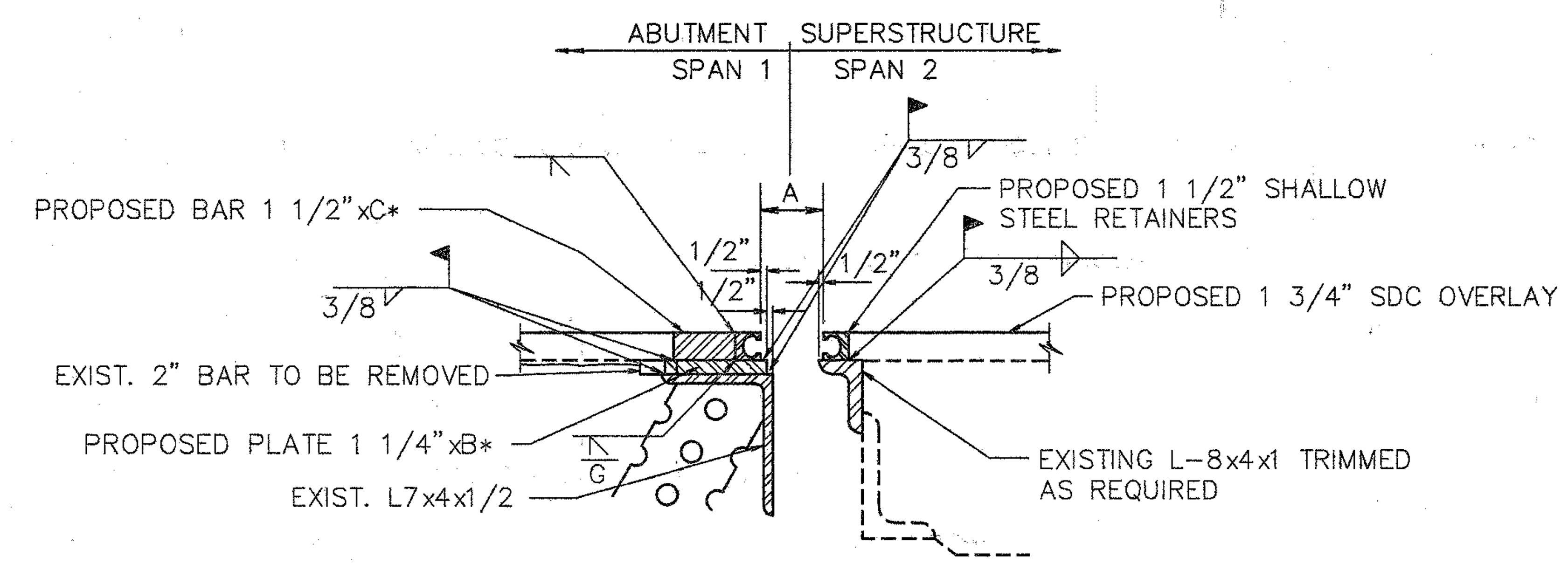


SECTION R–R



SECTION Q–Q

NOTE: SECTION Q–Q AT RIGHT REAR IS WITHIN 10'-0" TAPER FOR GUARDRAIL TERMINAL ASSEMBLY. TAPER OCCURS BETWEEN SECTIONS F–F AND SECTIONS J–J.



B* = ANGLE LEG MINUS 1"
C* = B* MINUS WIDTH OF RETAINER MINUS 1"

SECTION P–P

NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO MODIFYING THE EXPANSION JOINT.
2. THE PRICE BID FOR ITEM 516–'STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS', SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY OTHER INCIDENTIAL ITEMS, AS DETAILED. REMOVAL OF CURB OR PARAPET AS SHOWN SHALL BE INCLUDED UNDER ITEM 202–'PORTIONS OF STRUCTURE REMOVED.
3. FOR DETAILS NOT SHOWN REFER TO DRAWING EXJ-4-87 SHEETS 3 AND 4.

TEMPERATURE	DIM. 'A' FORWARD	REAR
40° F	3 1/2"	3 1/8"
50° F	3 1/4"	3 1/8"
60° F	3 1/8"	3"
70° F	3"	3"
80° F	2 3/4"	2 7/8"
90° F	2 1/2"	2 7/8"

FOR SECTIONS NOT SHOWN THIS SHEET SEE SHEET 4&5/8

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DAYTON, OHIO 45402-1226
(513) 461-5660

7/8

EXPANSION JOINT DETAILS

BRIDGE NO. HAM-42-0257R OVER N.B. READING ROAD

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	11/11/94	

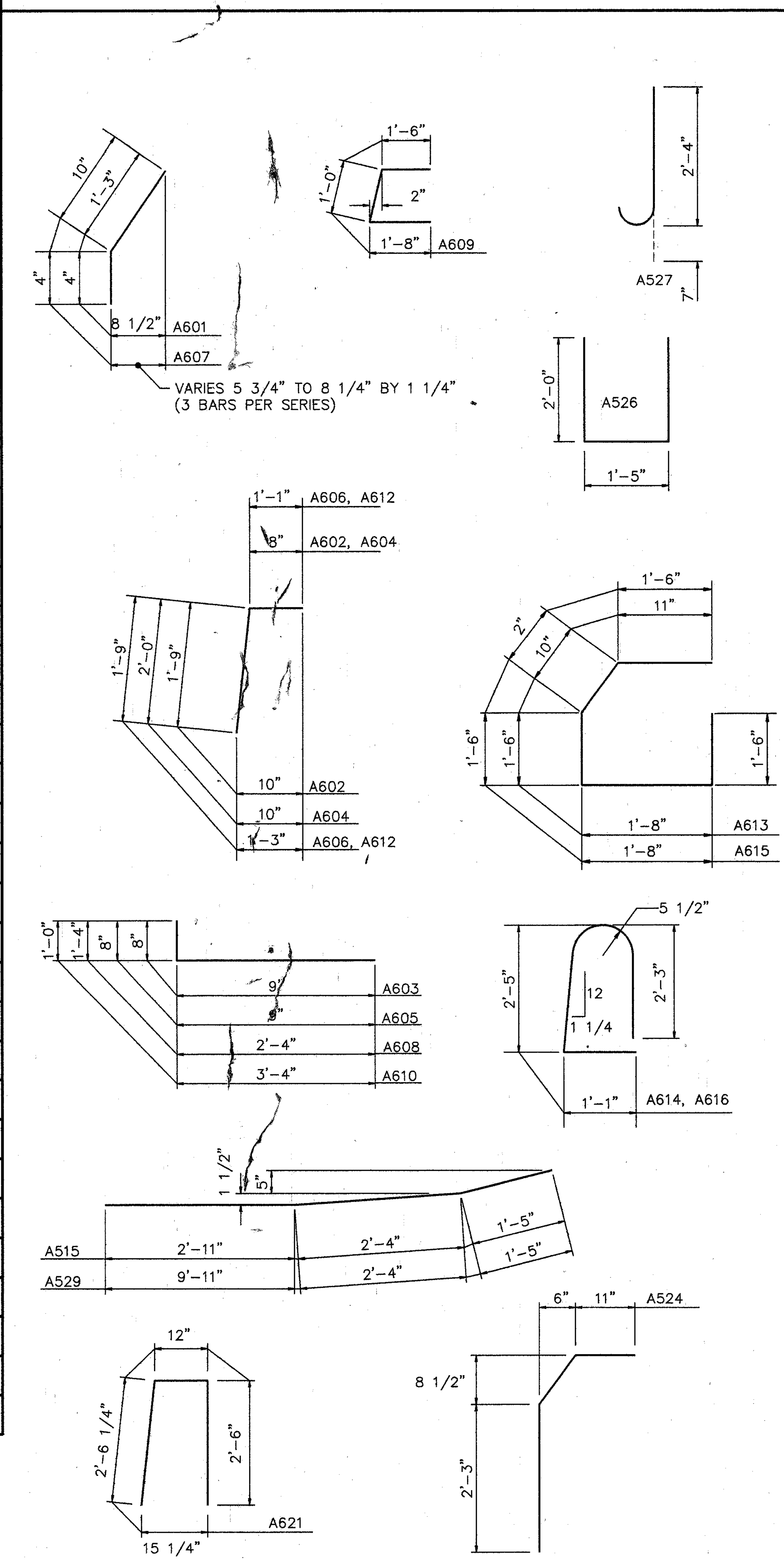
CALC. BY L.A.T.M. DATE [illegible] CHK'D BY D.E.M. DATE 10-4-94	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	346 / 401

REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT	MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A501	STR.	44	30'-0"	1377	A601	BNT.	589	1'-6"	1327
A502	STR.	2	27'-0"	56	A602	BNT.	576	2'-5"	2091
A503	STR.	5	9'-4"	49	A603	BNT.	590	1'-3"	1108
A504	BNT. †	1	9'-4"	10	A604	BNT.	2	2'-6"	8
A505	STR.	4	3'-10"	16	A605	BNT.	2	1'-3"	4
A506	STR.	2	8'-0"	17	A606	BNT.	13	2'-8"	52
A507	STR.	54	15'-4"	864	A607	BNT.	3	1'-0"	5
A508	STR.	3	18'-4"	57	A608	BNT.	6	3'-6"	32
A509	STR.	3	4'-6"	14	A609	BNT.	1	3'-10"	6
A510	STR.	60	15'-7"	975	A610	BNT.	2	4'-2"	13
A511	STR.	3	12'-8"	40	A611	STR.	3	10"	4
A512	STR.	1	14'-7"	15	A612	BNT.	3	2'-8"	12
A513	BNT. †	2	13'-10"	29	A613	BNT.	8	5'-11"	71
A514	STR.	1	6'-4"	7	A614	BNT.	8	6'-0"	72
A515	BNT.	2	6'-4"	13	A615	BNT.	3	5'-10"	26
A516	STR.	1	7'-2"	7	A616	BNT.	4	6'-0"	36
A517	STR.	1	4'-1"	4	A617	STR.	5	4'-1"	31
A518	STR.	1	3'-7"	4	A618	STR.	1	5'-0"	8
A519	STR.	1	3'-4"	3	A619	STR.	4	8'-1"	49
A520	STR.	1	2'-6"	3	A620	STR.	8	3'-6"	42
A521	STR.	2	9'-8"	20	A621	BNT.	1	5'-8"	9
A522	STR.	3	19'-8"	62					
A523	NOT	USED							
A524	BNT.	7	4'-0"	29					
A525	STR.	13	4'-9"	64					
A526	BNT.	10	5'-2"	54					
A527	BNT.	7	2'-11"	21					
A528	STR.	10	13'-8"	143	A701	STR.	8	3'-9"	61
A529	BNT.	4	13'-8"	57	A702	STR.	1	5'-0"	10
					REPLACEMENT STEEL				300
								TOTAL	9387

† BEND IN FIELD AS REQUIRED.

BENT BAR DETAILS



ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	L.S.	PORTIONS OF STRUCTURE REMOVED
516	14600	150	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2"x4" SEALER, AS PER PLAN
509	15820	9387	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
511	34450	10	C.Y.	CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
511	34400	5	C.Y.	CLASS S CONCRETE, SUPERSTRUCTURE (RECONSTRUCTION)
SPECIAL	51267500	817	S.Y.	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	166	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
516	45304	8	EACH	REFURBISH BEARING DEVICE
514	27704	LUMP	L.S.	FIELD PAINTING, MISC: EXISTING STEEL, EEU *
516	10000	72	L.F.	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL (705.11)
516	11210	77	L.F.	STRUCTURAL EXP. JT., INCLUDING ELASTOMERIC STRIP SEAL
516	13600	2	S.F.	1" PREFORMED EXPANSION JOINT FILLER
517	76201	645	L.F.	RAILING FACED, AS PER PLAN (32" HIGH)
516	14600	210	L.F.	SEAL JOINT BETWEEN ABUTMENT AND CONCRETE SLOPE PROTECTION
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
518	12800	3	EACH	SCUPPER MODIFICATION
519	11100	15	S.F.	PATCHING CONCRETE STRUCTURES
625				SEE LIGHTING SUMMARY SHEET
601	21100	8	S.Y.	REPAIR CONCRETE SLOPE PROTECTION
SPECIAL	51912600	50	L.F.	CONCRETE REPAIR BY EPOXY INJECTION *
845	40210	942	S.Y.	LATEX MODIFIED CONCRETE MISC. OVERLAY (1¾" THICK) ON EXISTING DECK
845	11000	10	C.Y.	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)
845	30000	1	C.Y.	FULL DEPTH REPAIR

* SEE PROPOSAL NOTE

PROPOSED WORK

1. MODIFY PARAPETS ON THE SUPERSTRUCTURE & ABUTMENTS. SEAL PARAPETS AS SHOWN ON PLANS. (INSTALL PLATES FOR STRIP SEAL EXP. JT.).
2. SCARIFY EXISTING DECK 1/4", AND REMOVE DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER.
3. PLACE 1 3/4" THICK LATEX MODIFIED CONCRETE ON DECK
4. SEAL PIERS, PARAPETS AND BACKWALL.
5. SEAL JOINTS AS NOTED.
6. REFURBISH ALL ABUTMENT BEARINGS.
7. SEAL EXPANSION JOINT WITH STRIP SEAL.
8. PLACE GUARDRAIL AS SHOWN ON ROADWAY PLANS.
9. REFURBISH DRAINAGE PIPING.
10. ~~AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTENANCE OF TRAFFIC PLANS.~~
11. OTHER WORK AS DESCRIBED IN THESE PLANS.

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(513) 461-5660

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QUANTITIES AND GENERAL NOTES

BRIDGE NO. HAM-42-0257 R
OVER N.B. READING ROAD

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	11/11/94	

Last Plot: MAY 15, 1991 @ 5:20 PM Last Revision By: RACH JUL 15, 1994 @ 2:15 PM G:\STR\16586-03\ASHLAND\025791T7

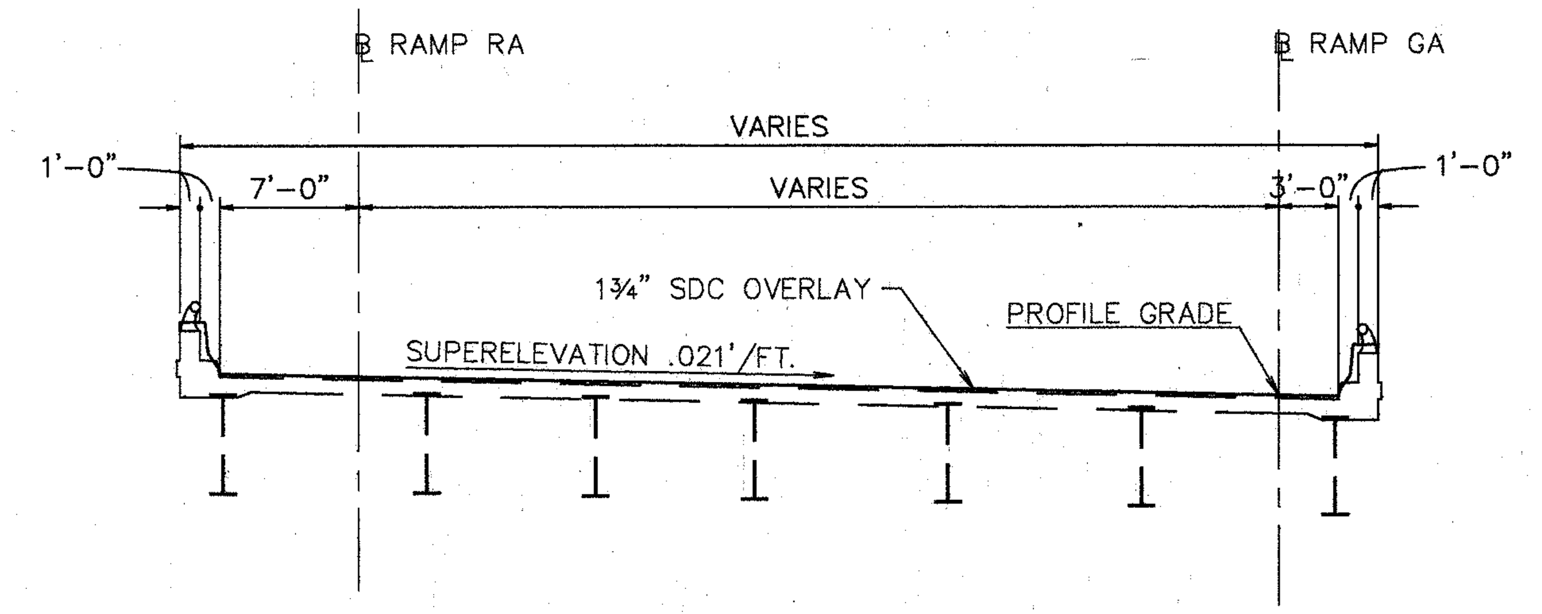
PLAN

NOTE:

1. SEAL PARAPETS, BACKWALLS AND PIERS. SEAL ALL OF PIERS EXCEPT TOP OF PIER CAP (PIER 1 & 5) AND TOP OF COLUMNS (PIERS 2, 3 & 4).
2. REFURBISH DRAINAGE PIPING.
3. SEE JUNCTION BOX EXTENSION DETAIL GENERAL DETAIL SHT. 273/401 FOR BARRIER RETROFIT AT JUNCTION BOXES. SEE LIGHTING DETAILS. FOR TYPE AND LOCATION.

ROCKER SIZE	JACK CAPACITY REQ'D. (MIN)
R125	100 TON
R150	100 TON

4. CLEAN EXISTING EXPANSION JOINT TO A DEPTH OF 6½"± x 12'-6"± ABOVE GRADE AND 6"± BELOW GRADE. INSERT ITEM 516, STRUCTURAL JOINT OR JOINT SEALER, MISC. 3"x5" SEALER AS PER PLAN AS MANUFACTURED BY "WILL-SEAL" OR CLOSED CELL EXPANDED NEOPRENE KNOWN AS "WILLIAMS NEOPRENE", MANUFACTURED BY WILLIAMS PRODUCTS INC.,OR EQUIVALANT.



TYP. BRIDGE SECTION

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: 90'-6", 94'-0", 98'-0" , 68'-0", 105'-6", 69'-10 1/2" C/C BEARINGS
ROADWAY: VARIES W/1'-0" CURBS
SKEW: ℄ PIER NO.3 IS RADIAL; THE ℄ OF THE OTHER PIERS & ABUTMENTS ℄ BRG. ARE PARALLEL TO ℄ PIER NO.3
LOADING FREQUENCY: C.F.=2000 (57) ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: VARIES
SUPERELEVATION: VARIES

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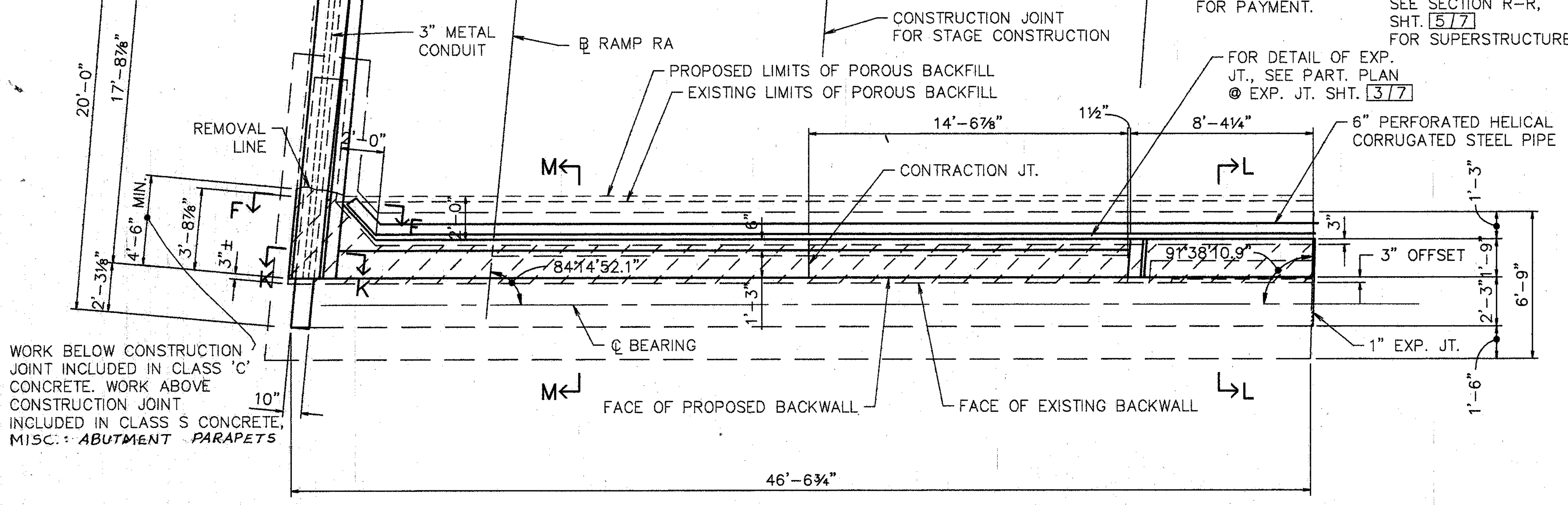
GENERAL PLAN

BRIDGE NO. HAM-42-0264R
OVER RAMP RF, NORTHBOUND READING RD. AND EDEN PARK ENT.
HAMILTON COUNTY

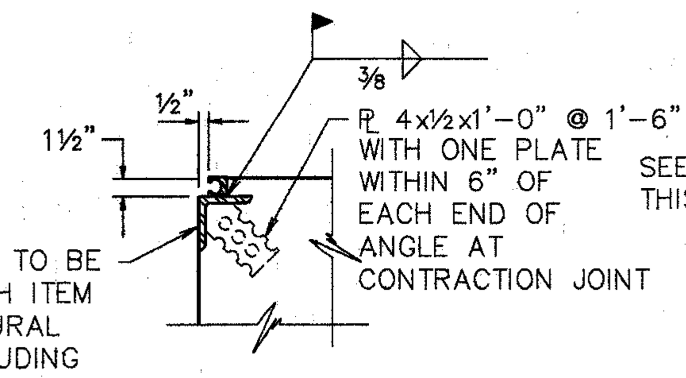
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	



NOTES:

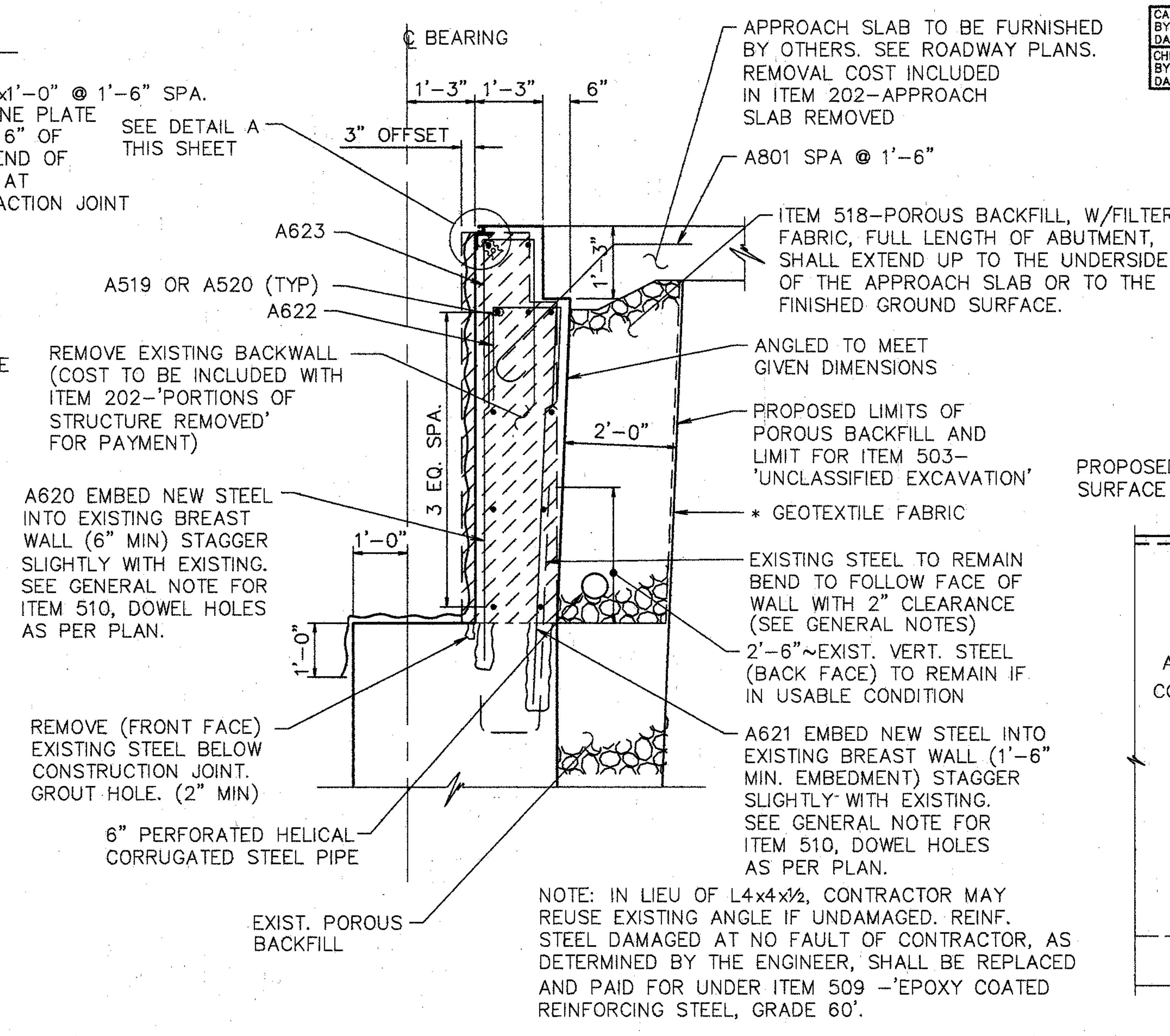
1. REPLACE ENTIRE BACKWALL WITH NEW WALL OFFSET 3", AS SHOWN.
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED AND PAID FOR UNDER ITEM 509-'EPOXY COATED REINFORCING STEEL, GRADE 60'.
3. COST FOR REMOVAL OF STRUCTURE TO BE INCLUDED IN PRICE BID FOR ITEM 202-'PORTIONS OF STRUCTURES REMOVED'.

FORWARD ABUTMENT PLAN



DETAIL A

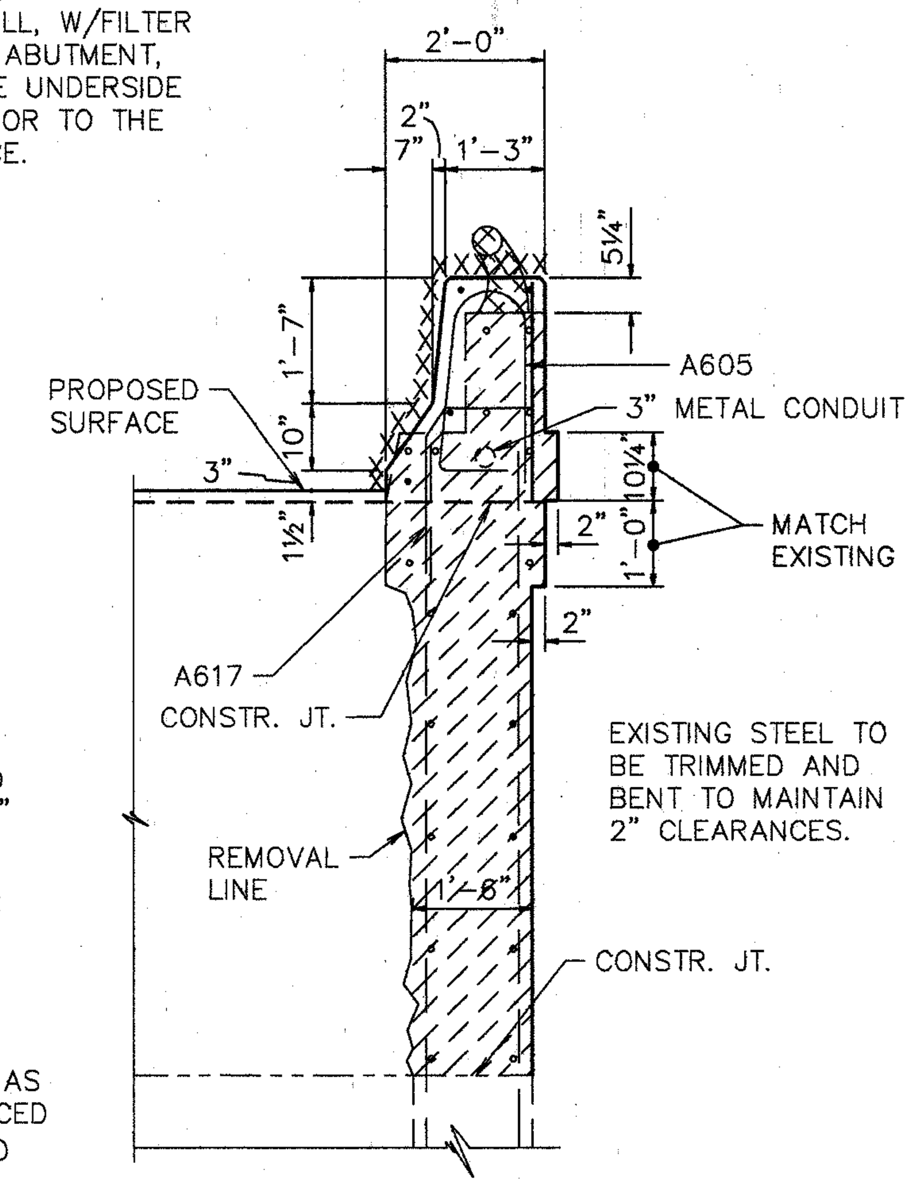
SEE SECTION R-R, SHT. 5/7 FOR SUPERSTRUCTURE



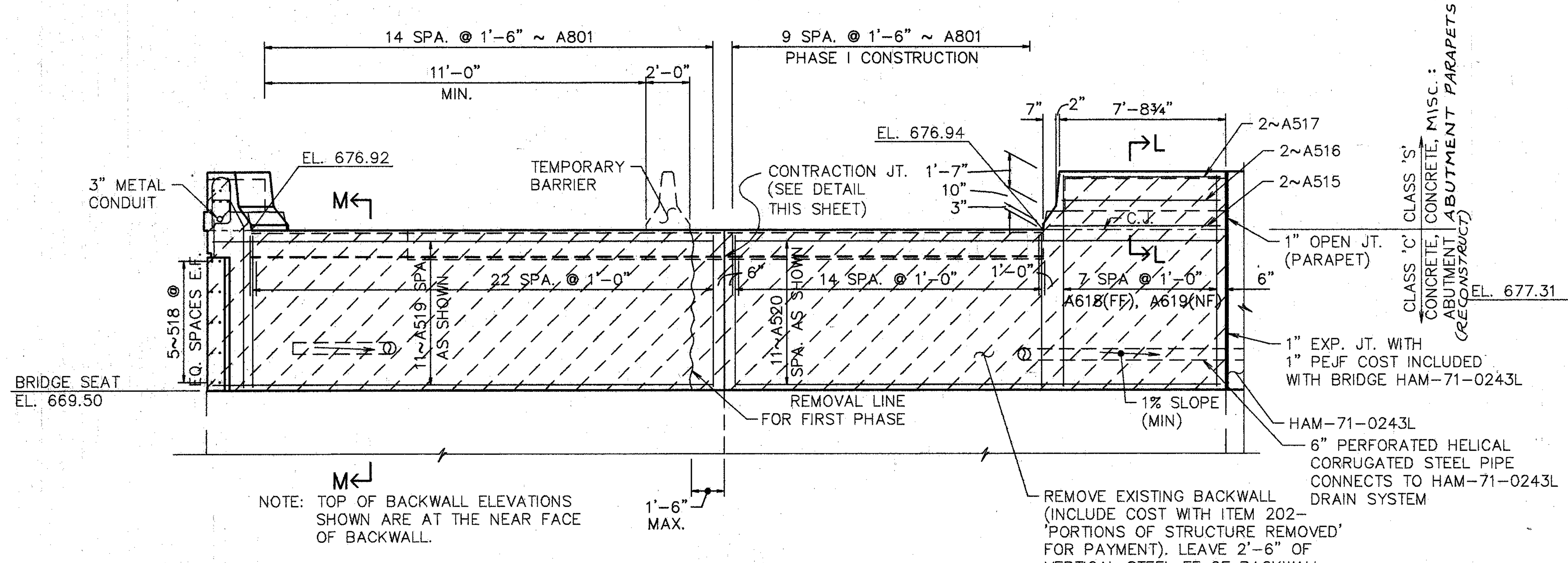
NOTE: IN LIEU OF L4x4x½, CONTRACTOR MAY REUSE EXISTING ANGLE IF UNDAMAGED. REINF. STEEL DAMAGED AT NO FAULT OF CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED AND PAID FOR UNDER ITEM 509 -'EPOXY COATED REINFORCING STEEL, GRADE 60'.

* GEOTEXTILE FABRIC SHALL CONFORM TO 712.09 TYPE A AND BE INCLUDED WITH THE POROUS BACKFILL FOR PAYMENT.

SECTION M-M

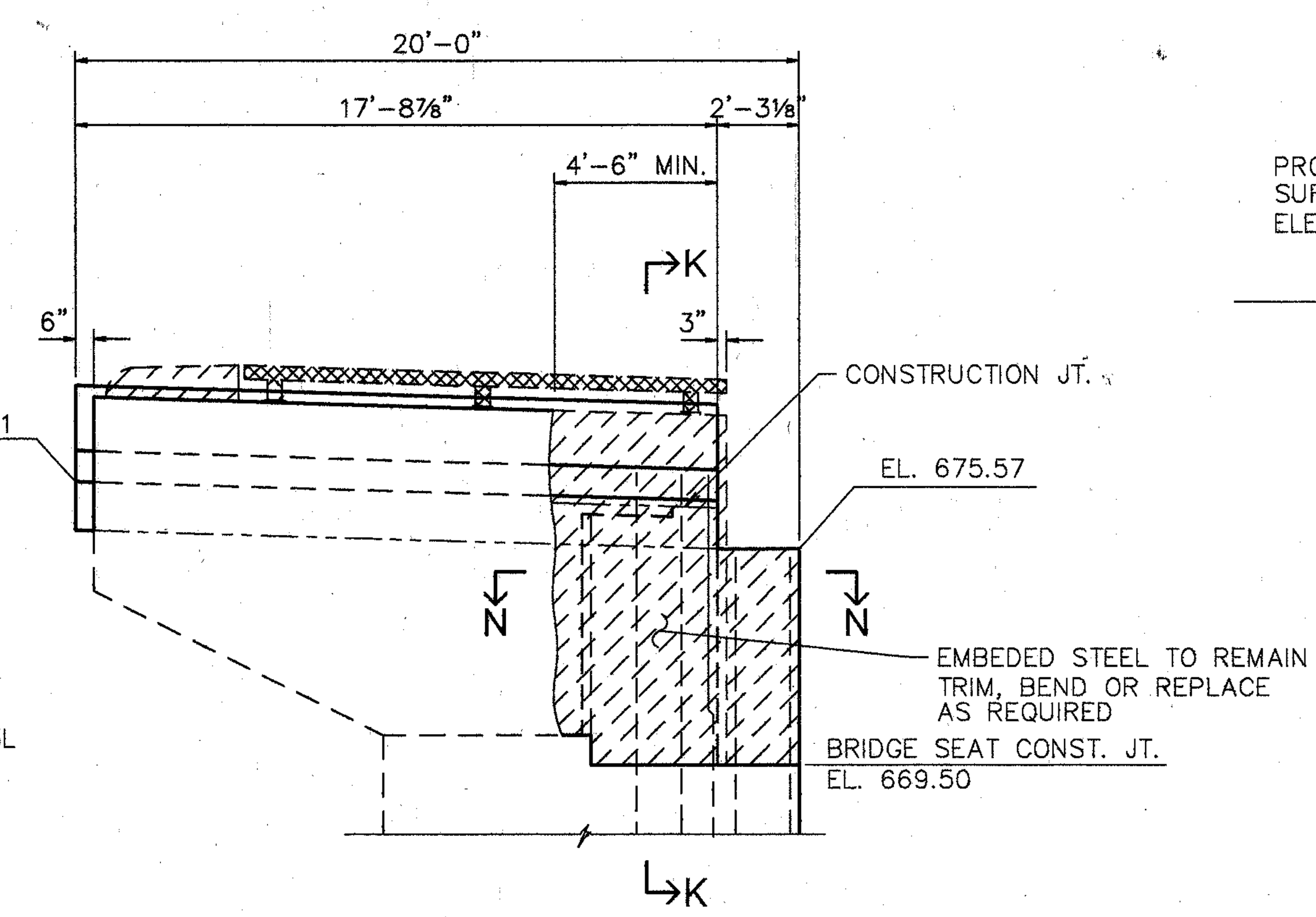


SECTION K-K

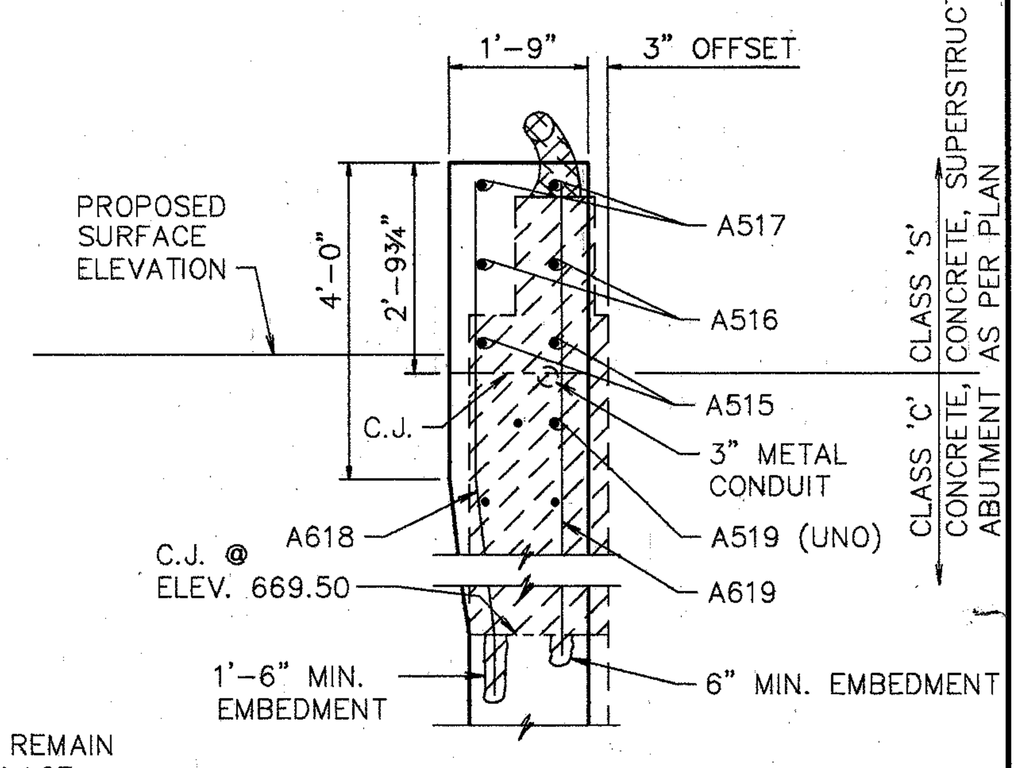


NOTE: TOP OF BACKWALL ELEVATIONS SHOWN ARE AT THE NEAR FACE OF BACKWALL.

ELEVATION

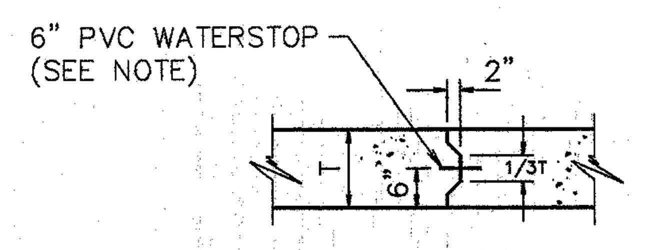


LEFT - FORWARD WINGWALL ELEVATION



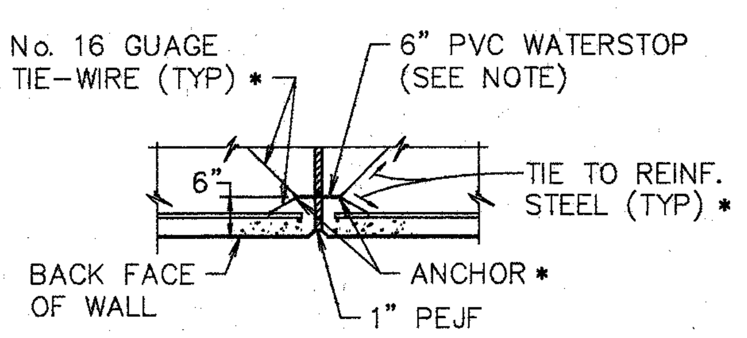
SECTION L-L

SEE SHEET 4/7 FOR NOTES.



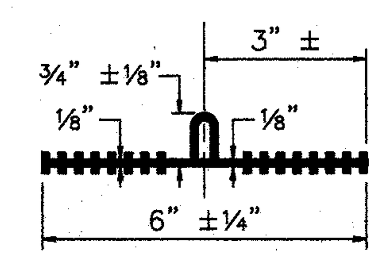
CONTRACTION JOINT & CONSTRUCTION JOINT

CONTRACTION JOINT SHOWN. CONSTRUCTION JOINT SIMILAR, EXCEPT THE WATERSTOP IS OMITTED AND REINFORCING STEEL CONTINUES THRU JOINT.



EXPANSION JOINT

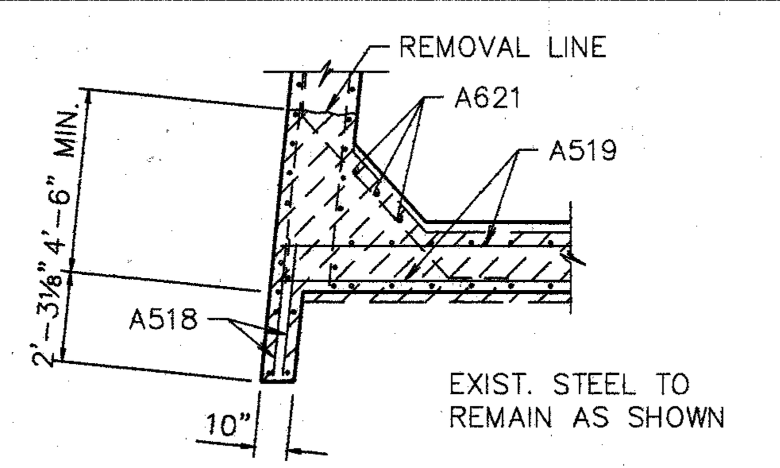
(COST INCLUDED WITH BRIDGE HAM-71-0243L)



WATERSTOP DETAIL

* FOR THE FIRST POUR, THE WATERSTOP SHOULD BE HELD SECURELY IN PLACE BY THE USE OF SPLIT FORMS AND TIE-WIRES. FOR THE SECOND POUR, SECURE THE FREE END OF WATERSTOP IN PROPER POSITION WITH TIE-WIRES. ALTERNATE METHODS, AS APPROVED BY THE ENGINEER, MAY BE USED TO INSURE THE CORRECT POSITIONING OF THE WATERSTOP.

6" PVC WATERSTOP SHALL BE CENTERED ON THE CONTRACTION JOINTS AND EXPANSION JOINTS ABOVE THE ABUTMENT AND WINGWALL FOOTERS. THE WATERSTOP SHALL BE CAPABLE OF ACCOMMODATING 1½" OF JOINT MOVEMENT.



SECTION N-N

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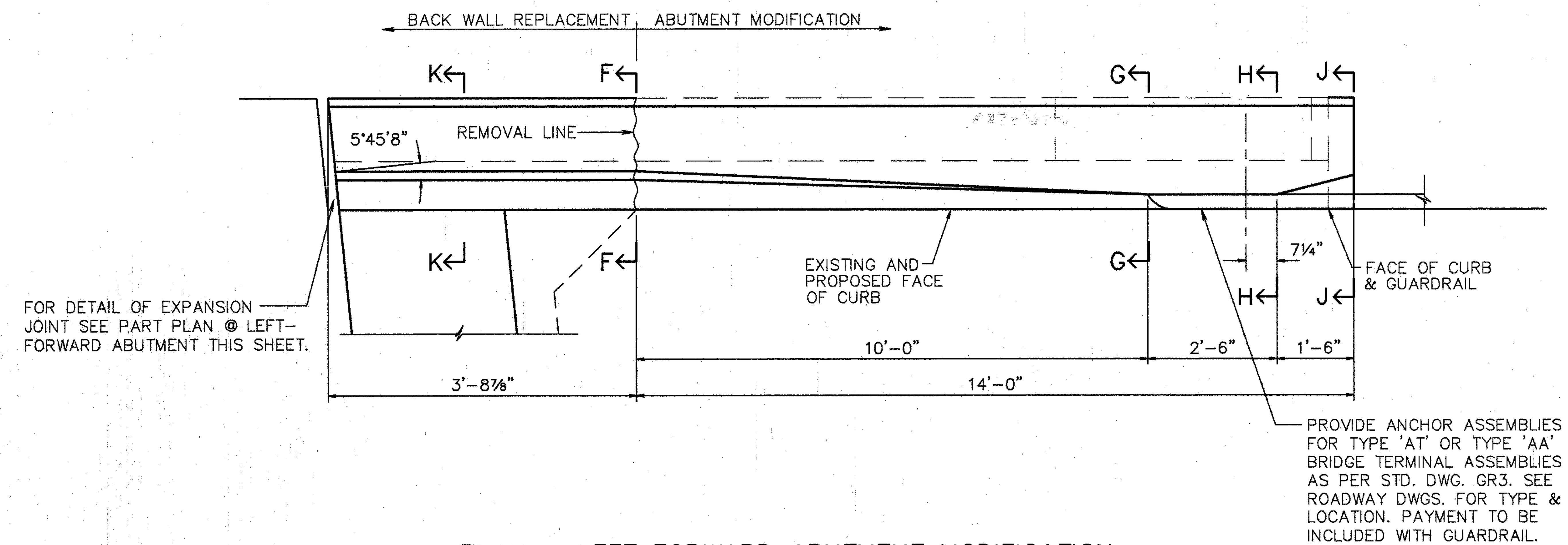
2/7

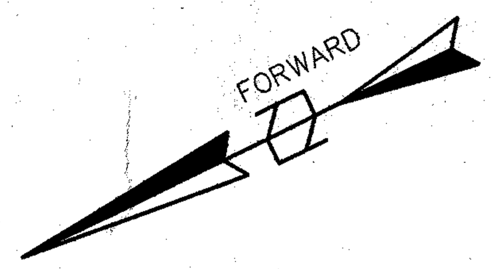
NORTH ABUTMENT

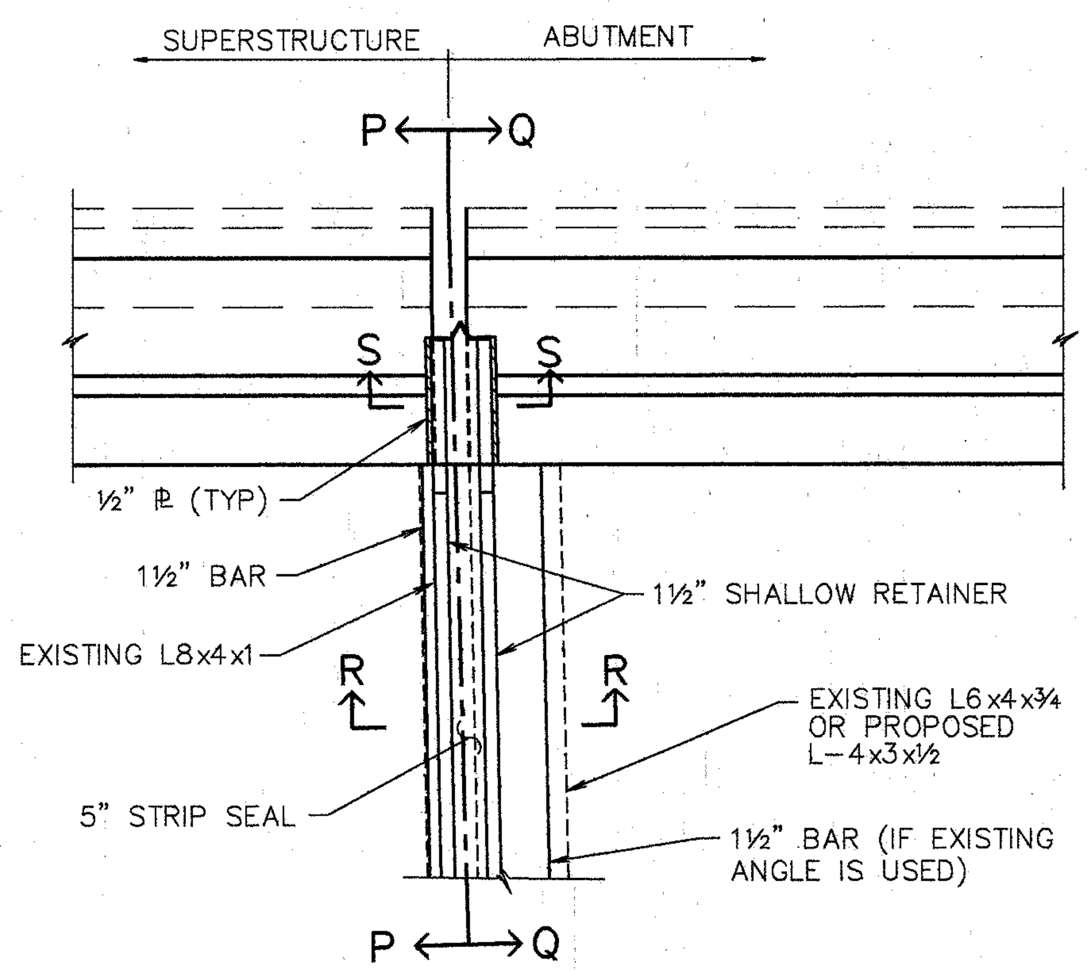
BRIDGE NO. HAM-42-0264R
OVER RAMP RF, NORTHBOUND READING RD. AND EDEN PARK ENT.
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	

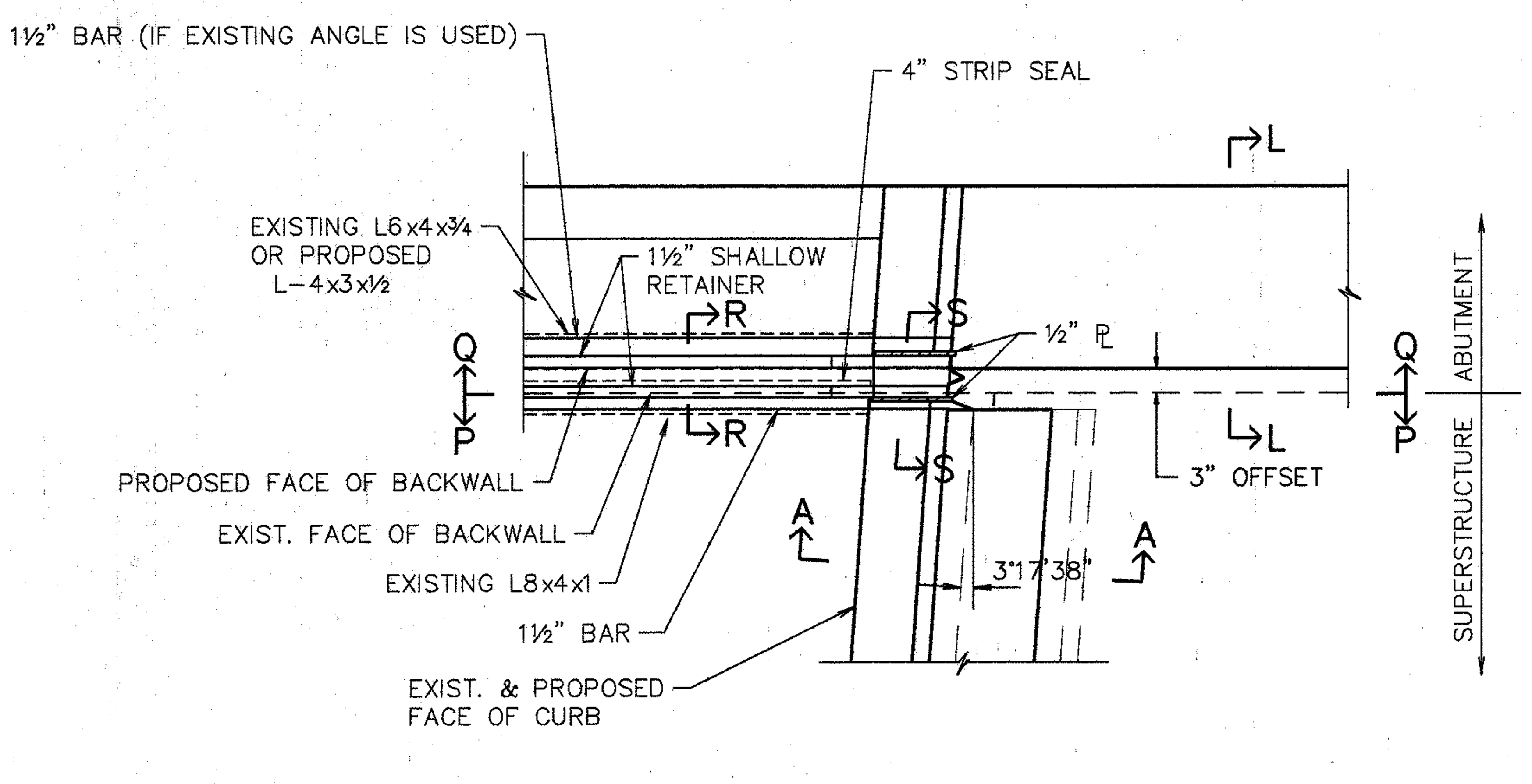


PLAN – LEFT FORWARD ABUTMENT MODIFICATION

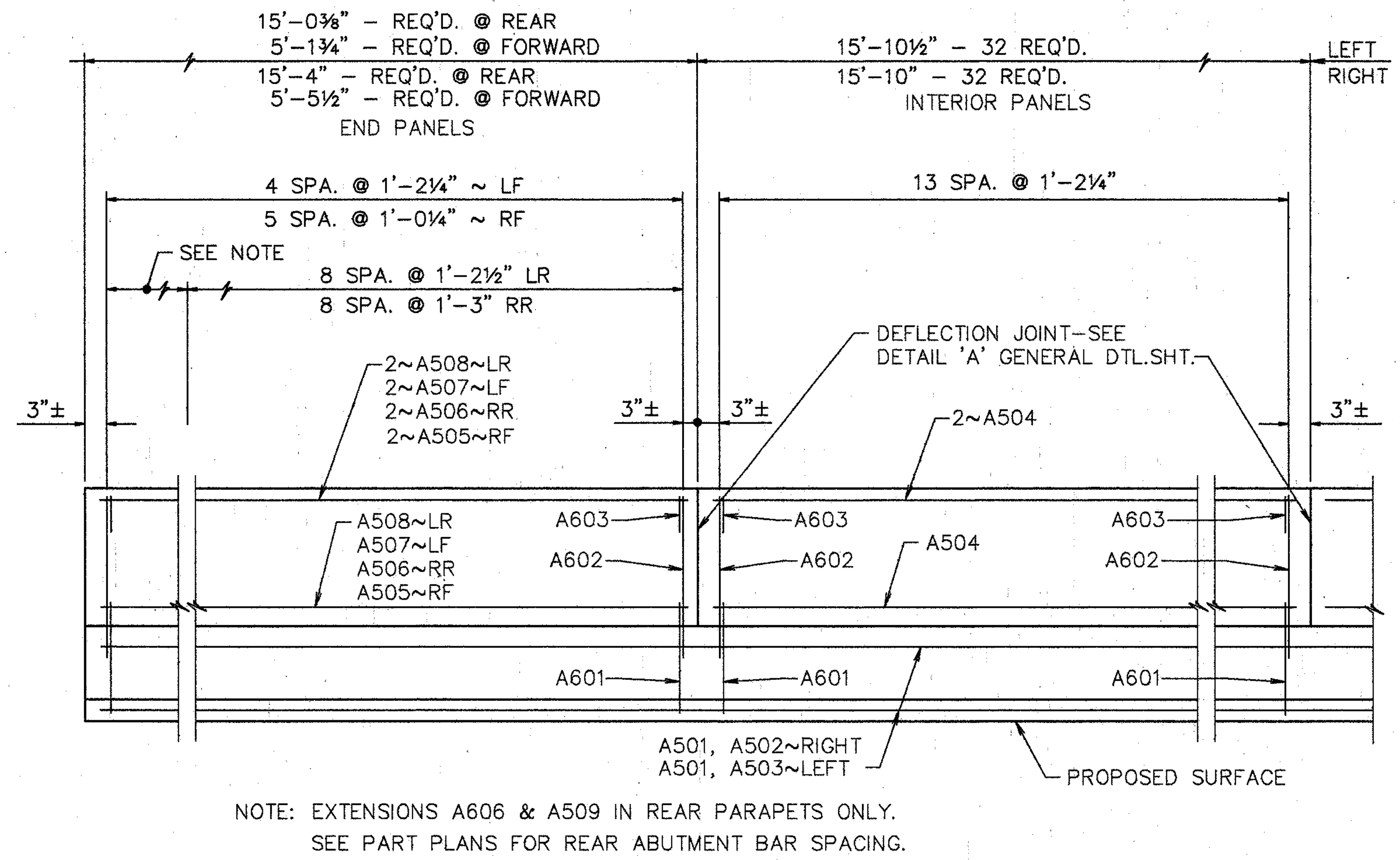




PART PLAN @ LEFT-FORWARD ABUTMENT

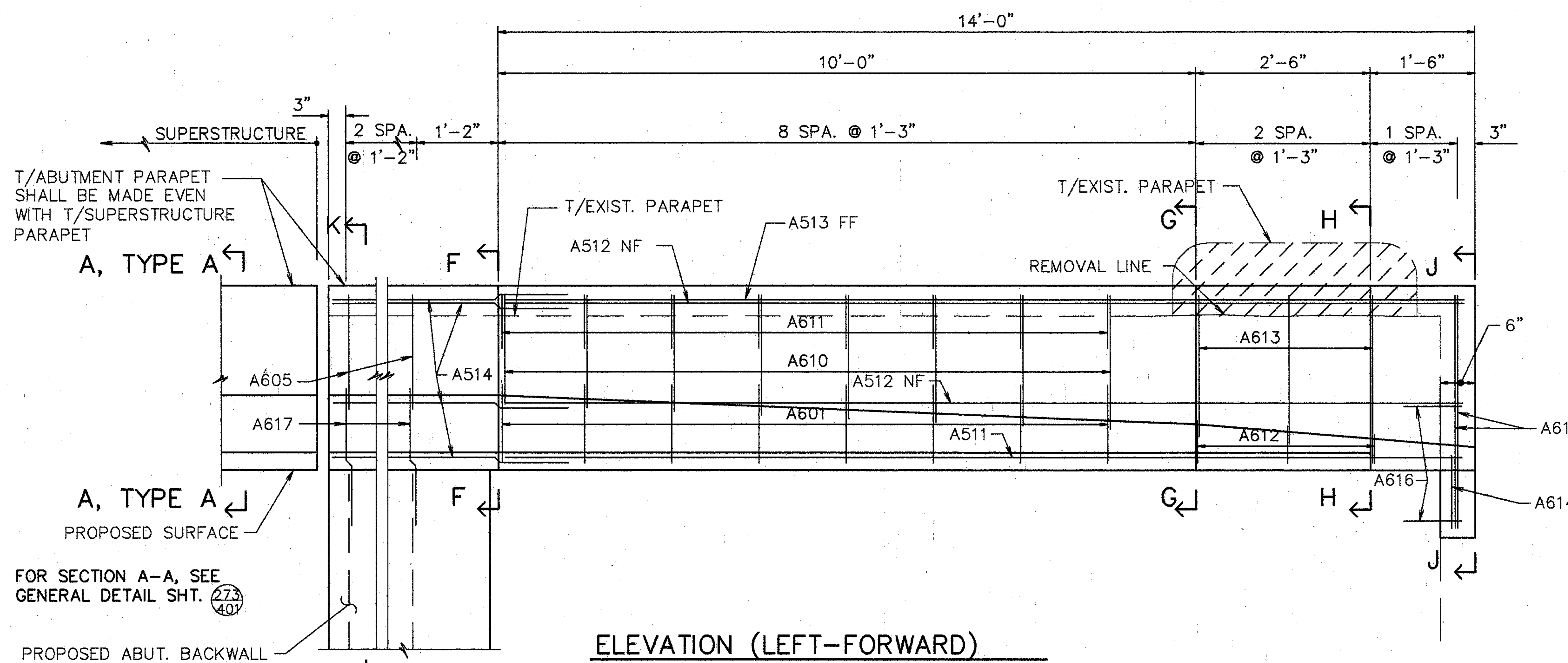


PART PLAN @ RIGHT-FORWARD ABUTMENT



NOTE: EXTENSIONS A606 & A509 IN REAR PARAPETS ONLY.
SEE PART PLANS FOR REAR ABUTMENT BAR SPACING.

ELEVATION SUPERSTRUCTURE PARAPET



ELEVATION (LEFT-FORWARD)

SEE SHEETS 2&4 / 7 FOR NOTES AND ADDITIONAL SECTIONS NOT SHOWN

NOTES:

1. TYPE "A" WATERPROOFING AT THE BRIDGE LIMIT END OF THE APPROACH SLAB (AS PER STD. DWG. AS-1-81) SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611 APPROACH SLAB.

NOTES:

L DENOTES LEFT SIDE
R DENOTES RIGHT SIDE
RF DENOTES RIGHT FORWARD
LF DENOTES LEFT FORWARD
RR DENOTES RIGHT REAR
LR DENOTES LEFT REAR
NF DENOTES NEAR FACE
FF DENOTES FAR FACE
EF DENOTES EACH FACE

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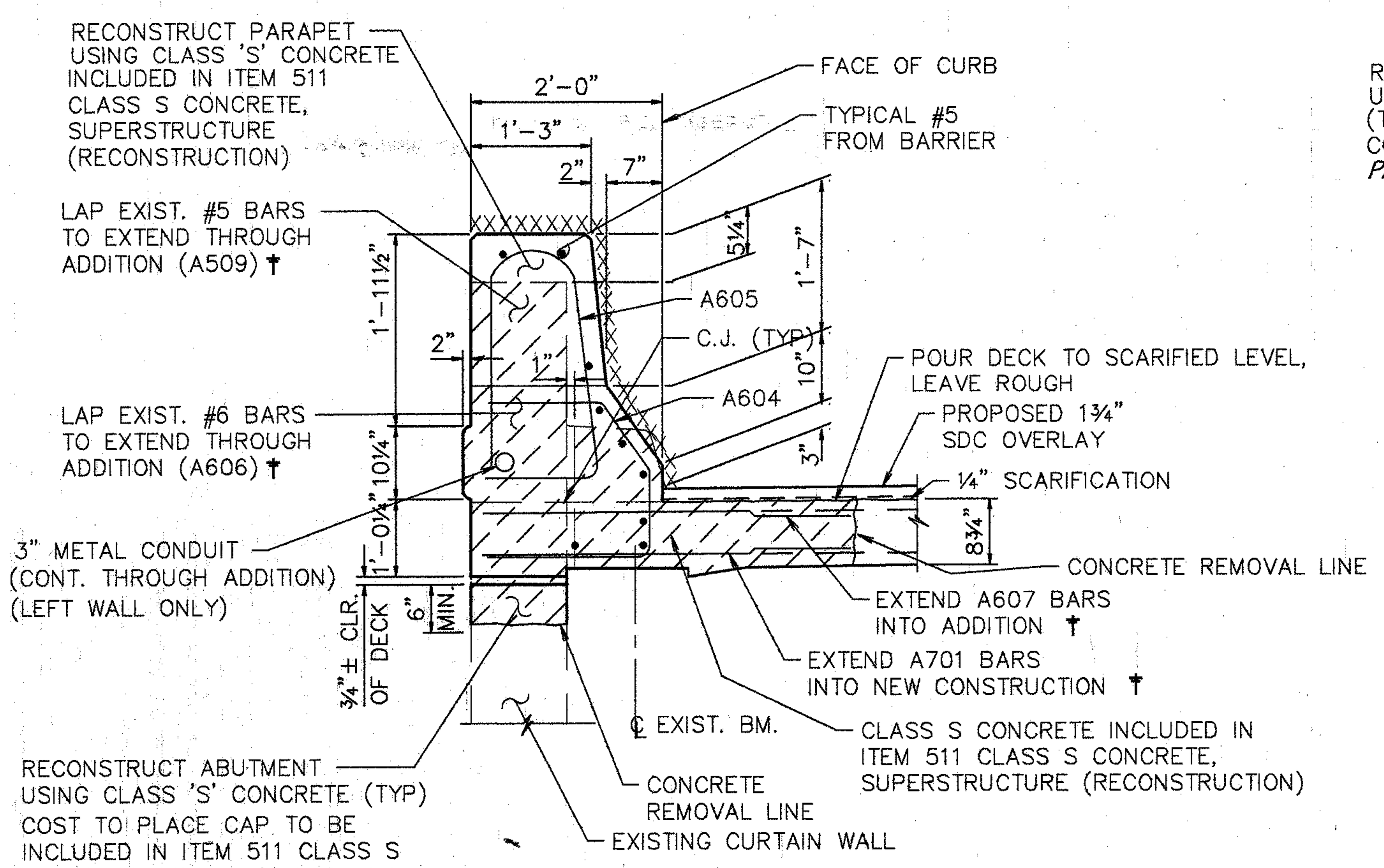
ABUTMENT PLAN & PARAPET ELEVATIONS

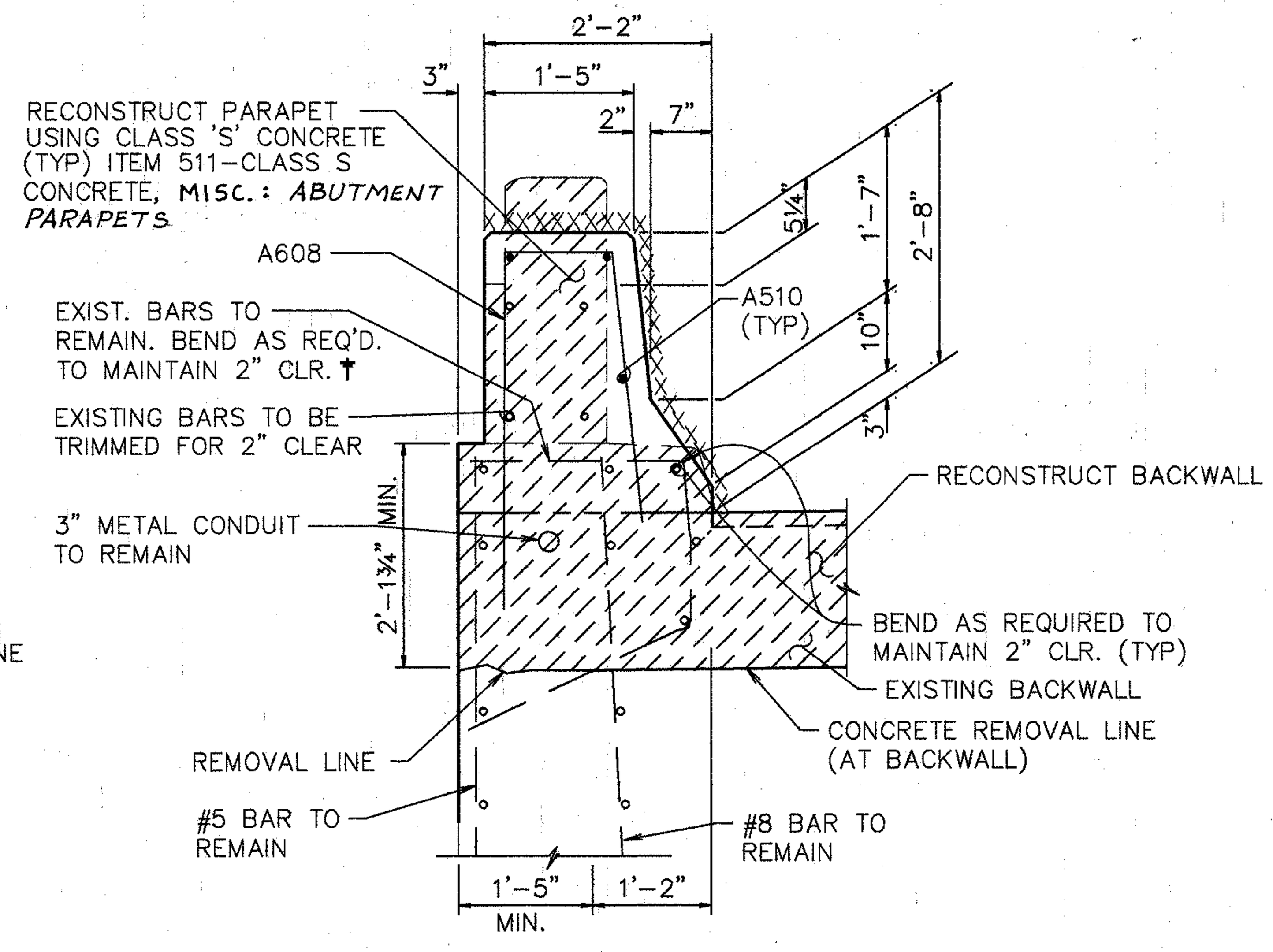
BRIDGE NO. HAM-42-0264R
OVER RAMP RF, NORTHBOUND READING RD. AND EDEN PARK ENT.
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	

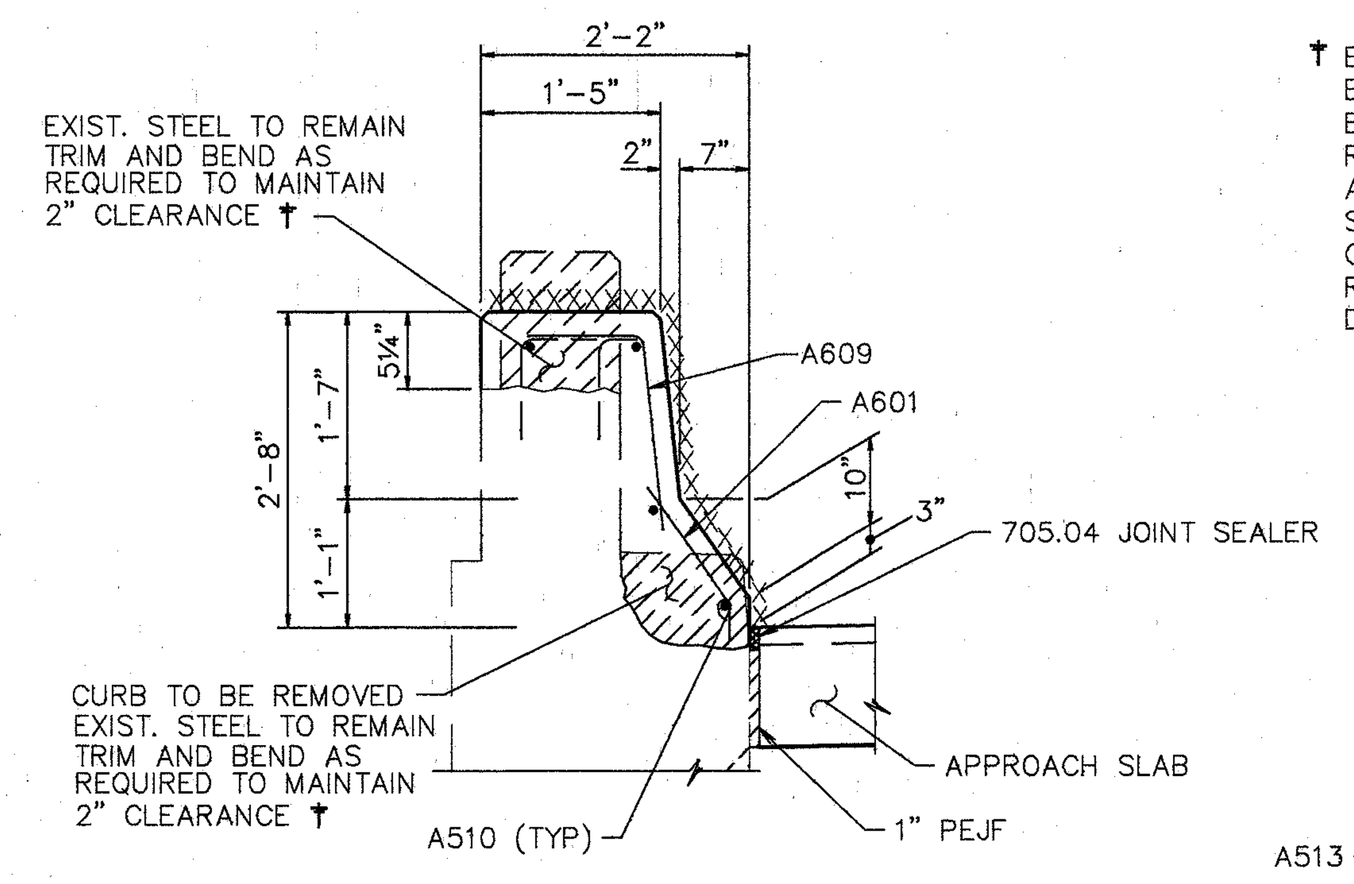
Last Plot: MAY 15, 1995 @ 7:54 PM G:\STR\16586-03\0264SHT3 Last Revision By: RACH MAY 17, 1994 @ 4:21 PM



SECTION B-B

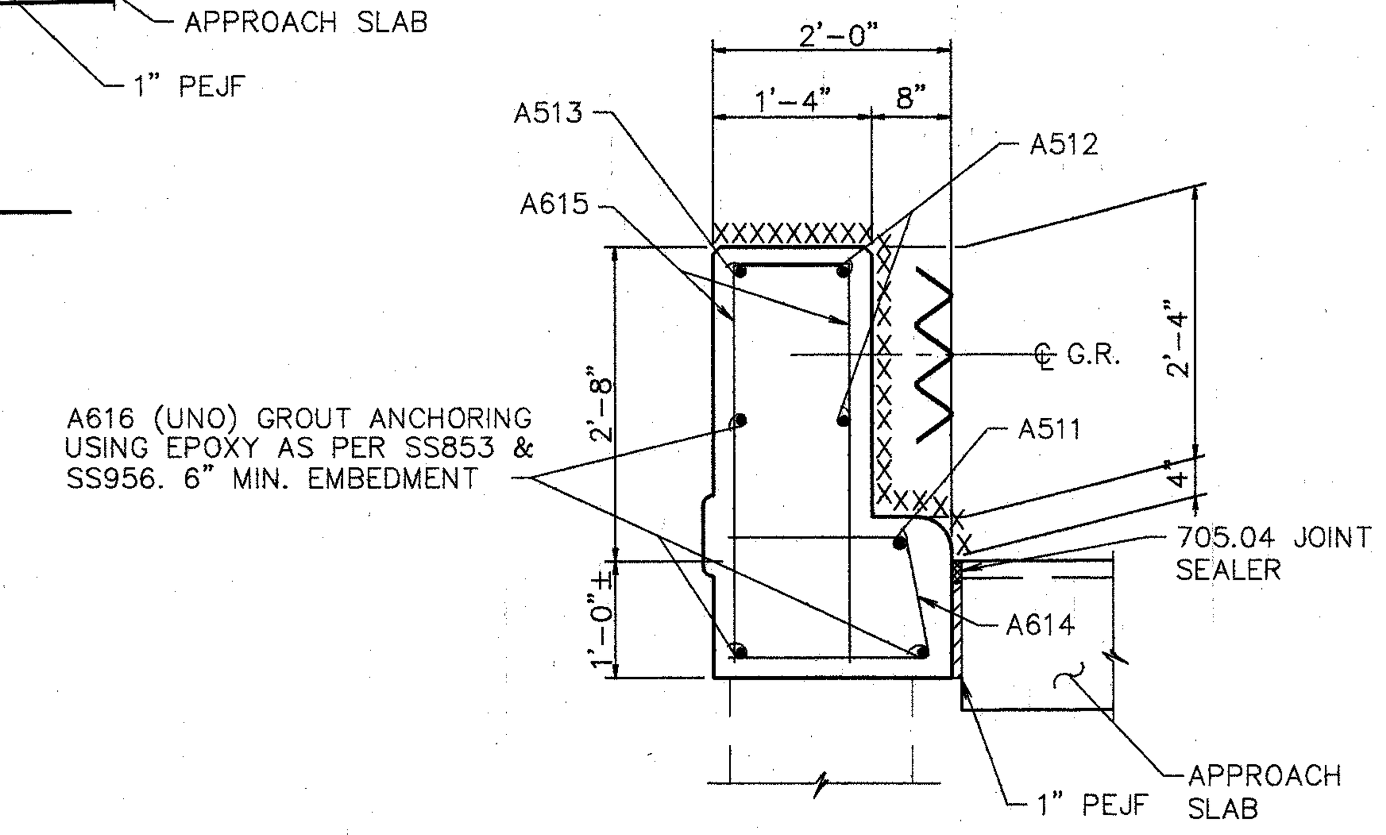


SECTION C-C

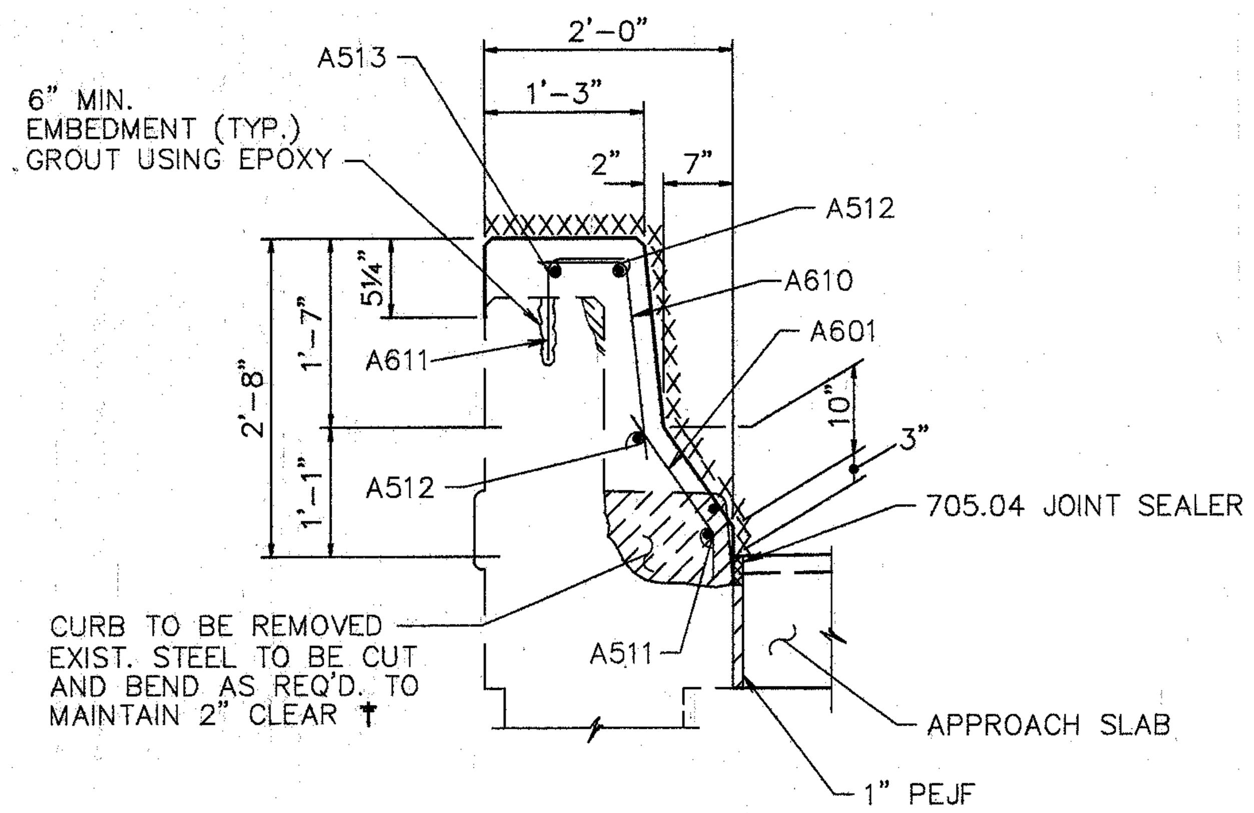


SECTION D-D

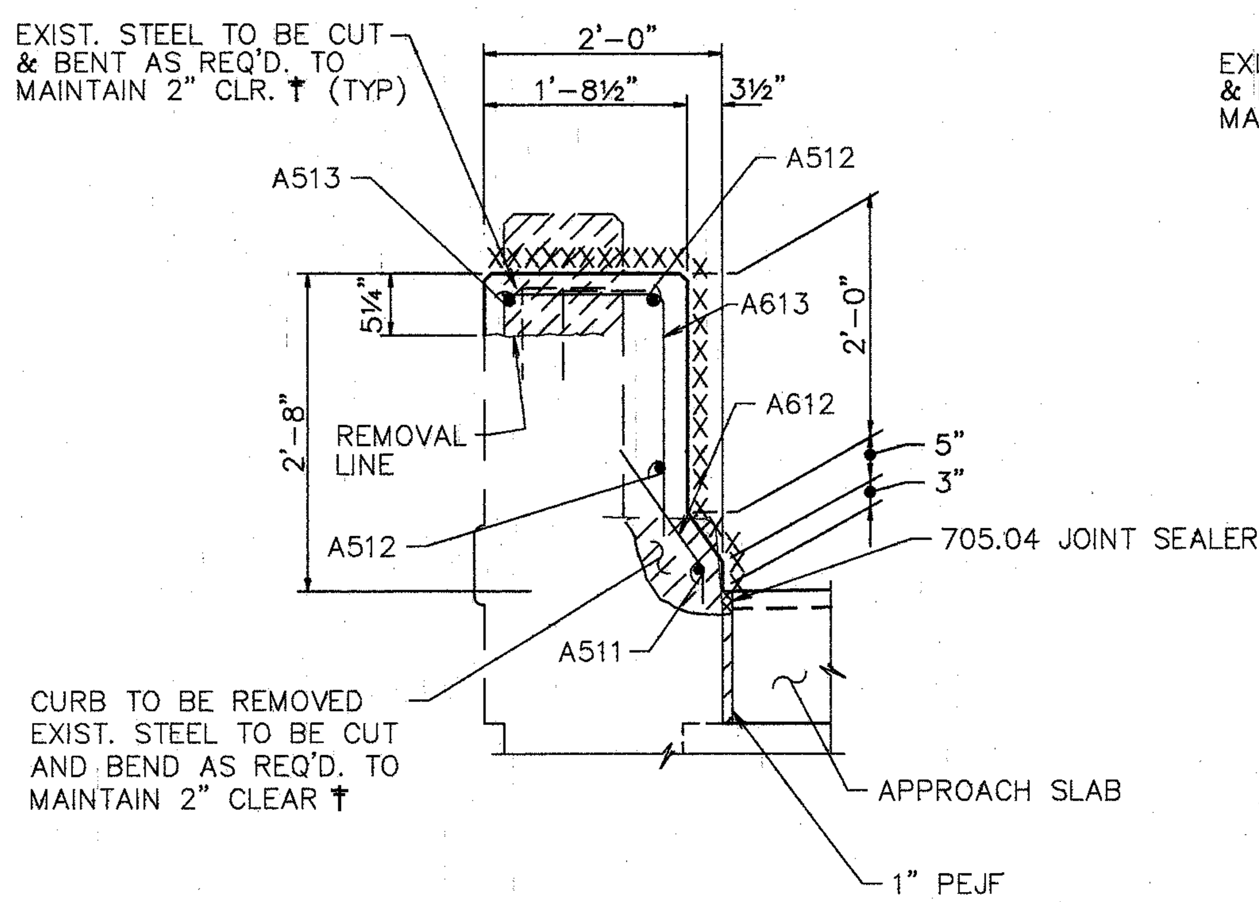
† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONCRETE REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.



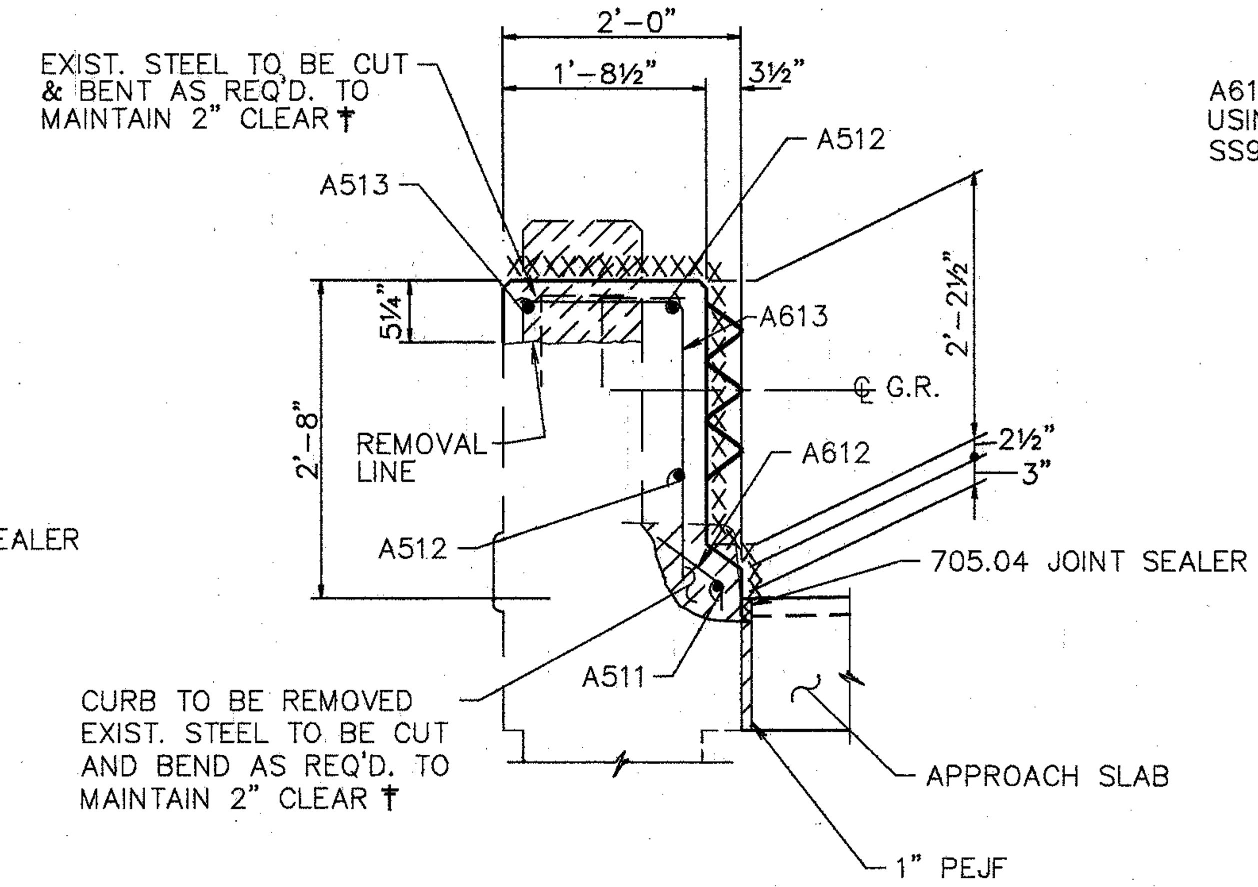
SECTION J-J



SECTION F-F



SECTION G-G



SECTION H-H

EXISTING CURB AND PARAPET TO BE REMOVED UNDER ITEM 202, PORTIONS OF STRUCTURES REMOVED.

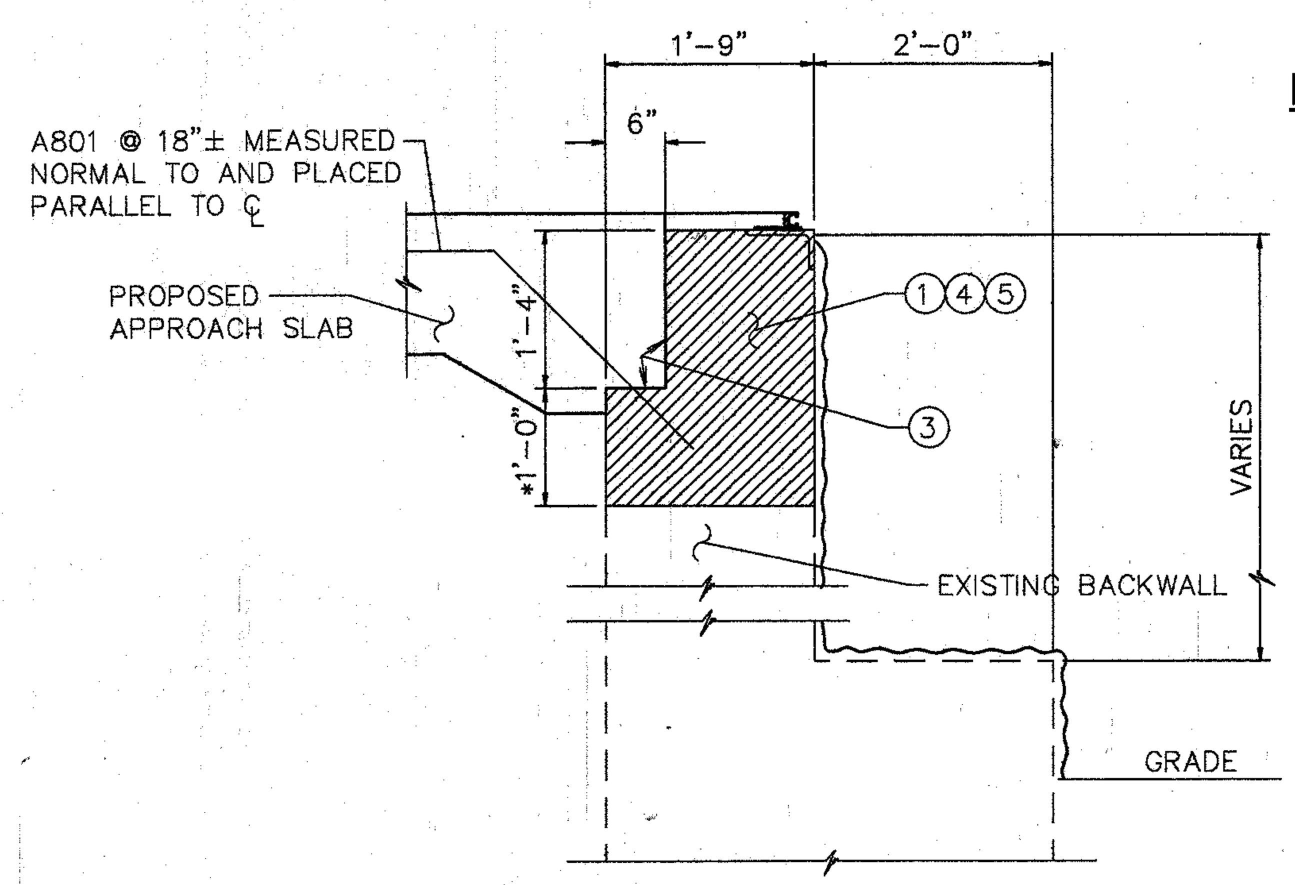
EXISTING RAILING & POSTS TO BE REMOVED & STACKED NEATLY ALONG THE RIGHT OF WAY FOR DISPOSAL BY THE CONTRACTOR. ALL WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202, PORTIONS OF STRUCTURE REMOVED.

XXXXXX SURFACES TO BE SEALED UNDER ITEM SPECIAL, SEALING OF CONCRETE SURFACES.

SURFACE TO BE SEALED UNDER ITEM SPECIAL, SEALING OF CONCRETE SURFACES, EPOXY.

NOTES:

1. TYPE 'A" WATERPROOFING AT THE BRIDGE LIMIT END OF THE APPROACH SLAB (AS PER STD. DWG. AS-1-81) SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611 APPROACH SLAB.
2. FOR ADDITIONAL SECTIONS SEE SHEET 2&5 / 7



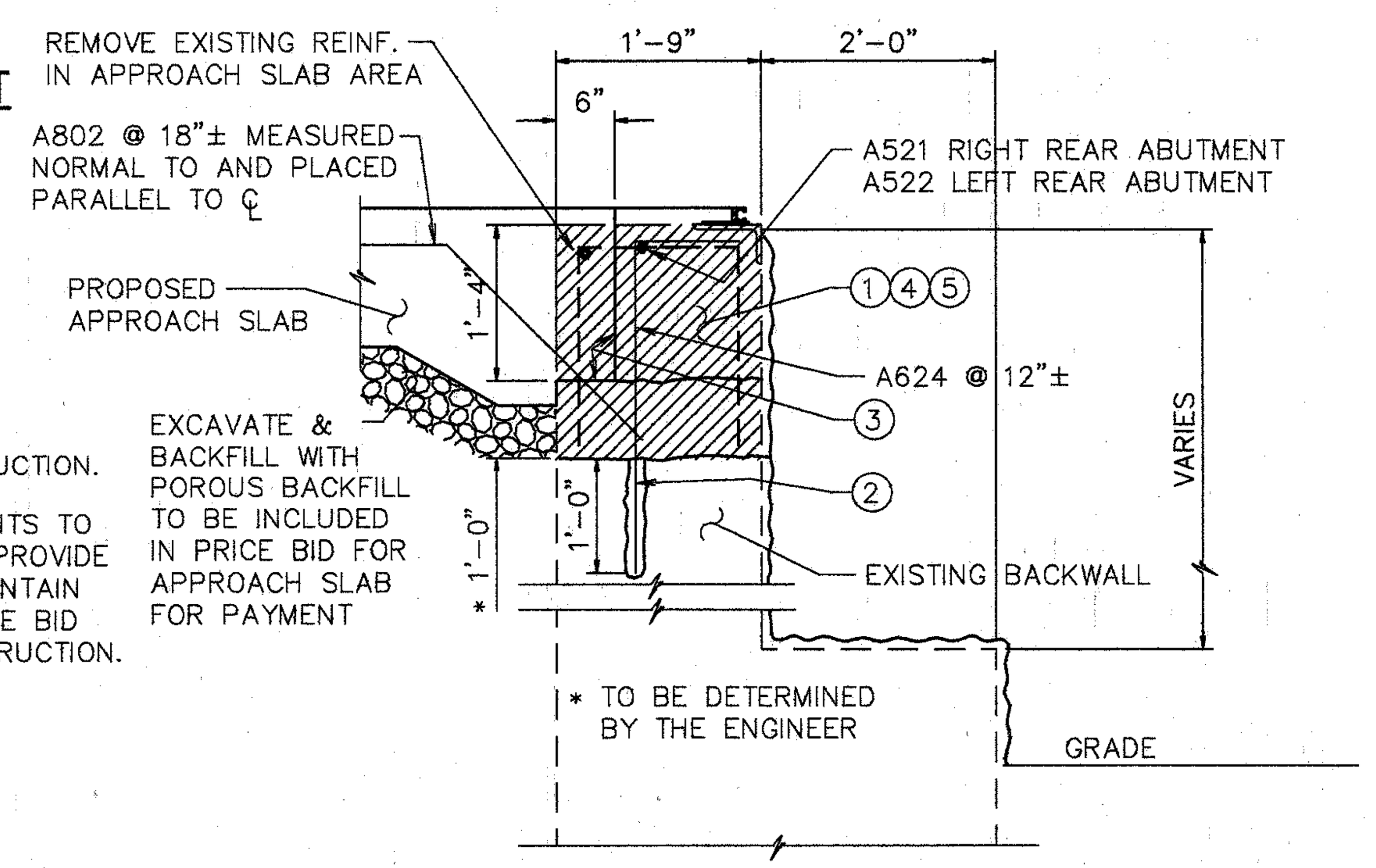
SECTION E-E

NOTES FOR SECTION E-E & T-T

1. EXISTING REINFORCING STEEL TO REMAIN ~ REINFORCING STEEL DAMAGED TO BE REPLACED AT CONTRACTORS EXPENSE.
2. 1' MIN. EMBEDMENT (SEE DOWEL HOLE GENERAL NOTE) ITEM 510.
3. TYPE 'A' WATERPROOFING (PAYMENT INCLUDED IN THE PRICE BID FOR APPROACH SLAB).
4. CLASS 'C' CONCRETE, ABUTMENT RECONSTRUCTION.
5. PROVIDE CONTRACTION AND EXPANSION JOINTS TO MATCH THOSE IN EXISTING BACKWALL AND PROVIDE CONSTRUCTION JOINTS AS REQUIRED TO MAINTAIN TRAFFIC. PAYMENT TO BE INCLUDED IN PRICE BID FOR ITEM 511 CLASS C CONCRETE RECONSTRUCTION.

EXISTING CONCRETE TO BE REMOVED INCLUDE IN ITEM 202 FOR PAYMENT.

SURFACE TO BE SEALED UNDER ITEM SPECIAL- 'SEALING OF CONCRETE SURFACE, EPOXY'.



SECTION T-T

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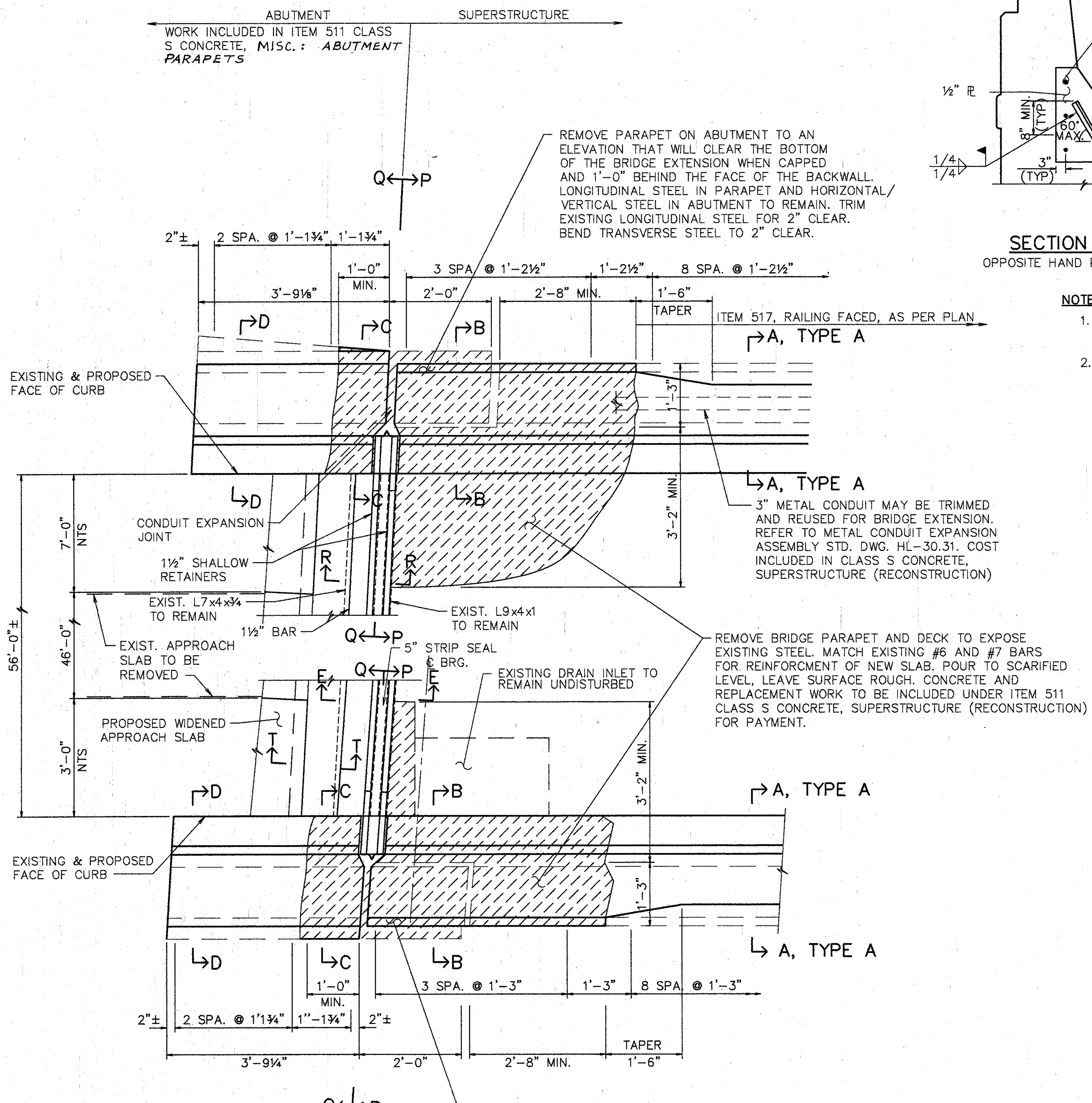
PARAPET SECTIONS

BRIDGE NO. HAM-42-0264R
OVER RAMP RF, NORTHBOUND READING RD. AND EDEN PARK ENT.
HAMILTON COUNTY

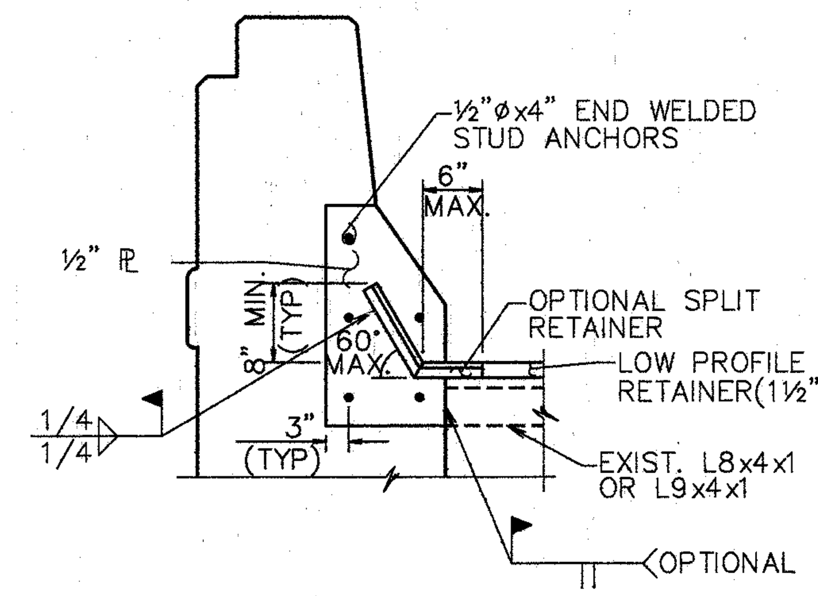
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	



COSTS TO REMOVE PORTIONS OF ABUTMENT AND SUPERSTRUCTURE TO BE INCLUDED IN PRICE BID FOR ITEM 202-'PORTION OF STRUCTURES REMOVED'.

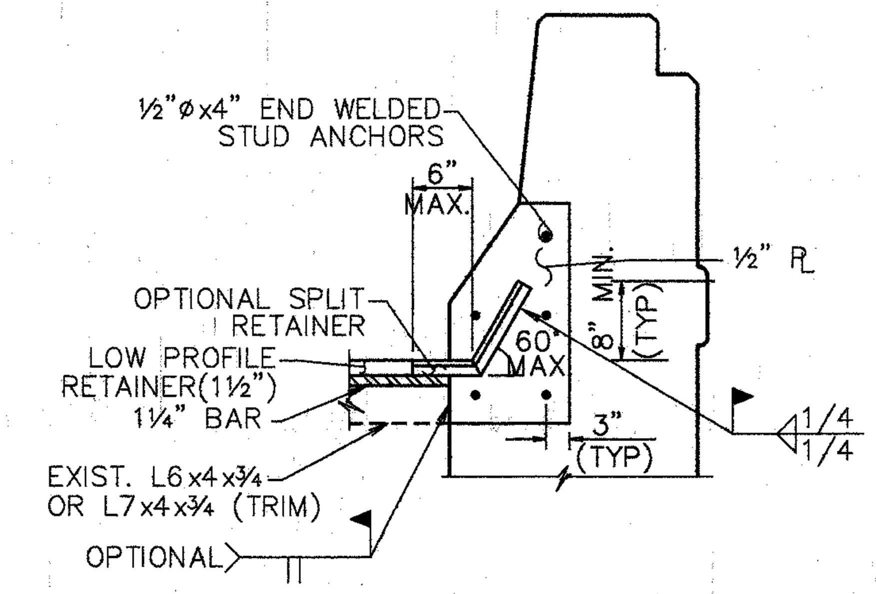
NOTE: EXISTING CONDUIT IN BRIDGE TO REMAIN. CONTRACTOR TO REMOVE CONCRETE FROM AROUND CONDUIT WITHOUT DAMAGING CONDUIT OR ITS CONTENTS.

PART PLAN @ REAR ABUTMENT



SECTION P-P

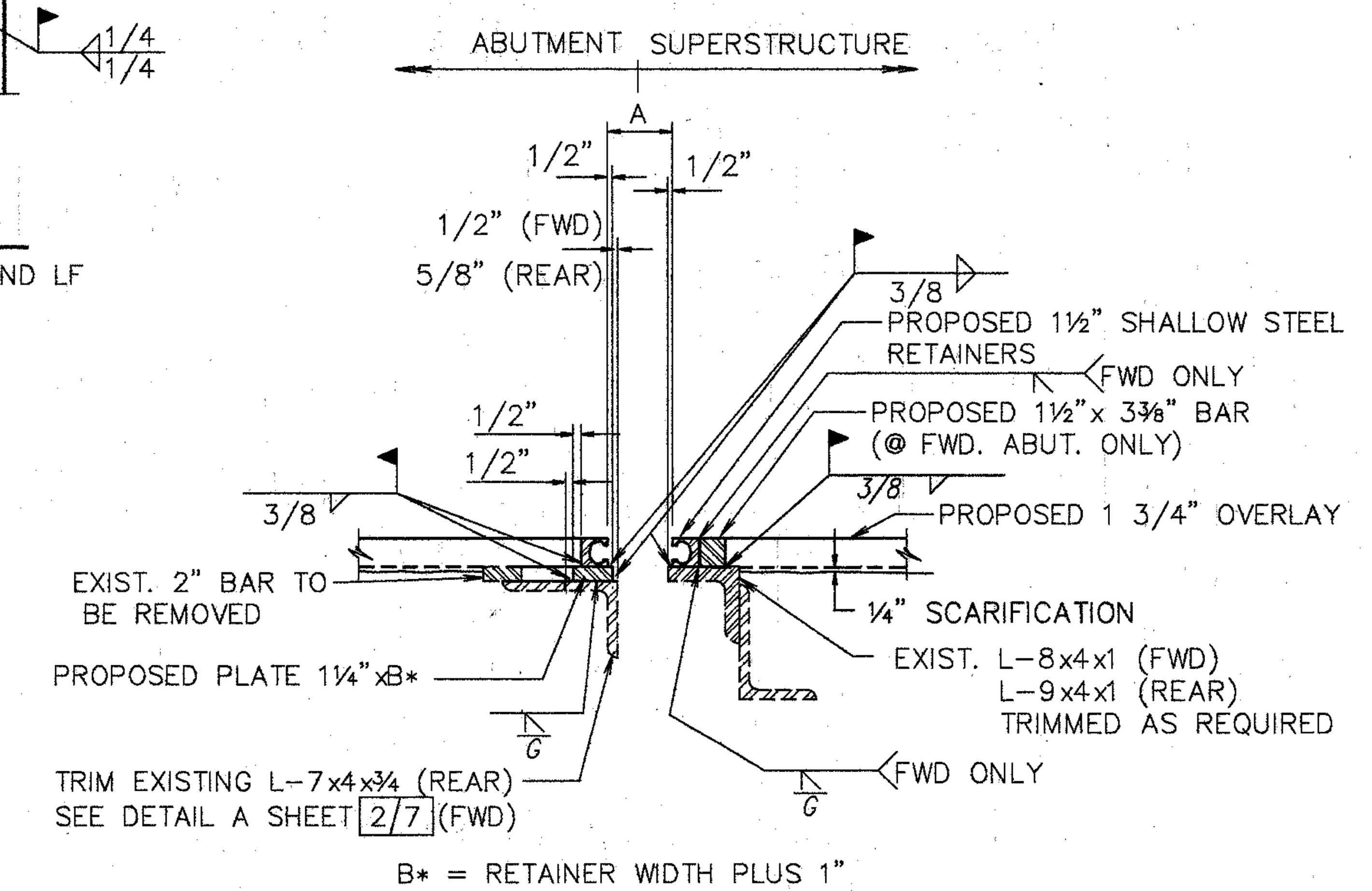
OPPOSITE HAND FOR RR AND LF



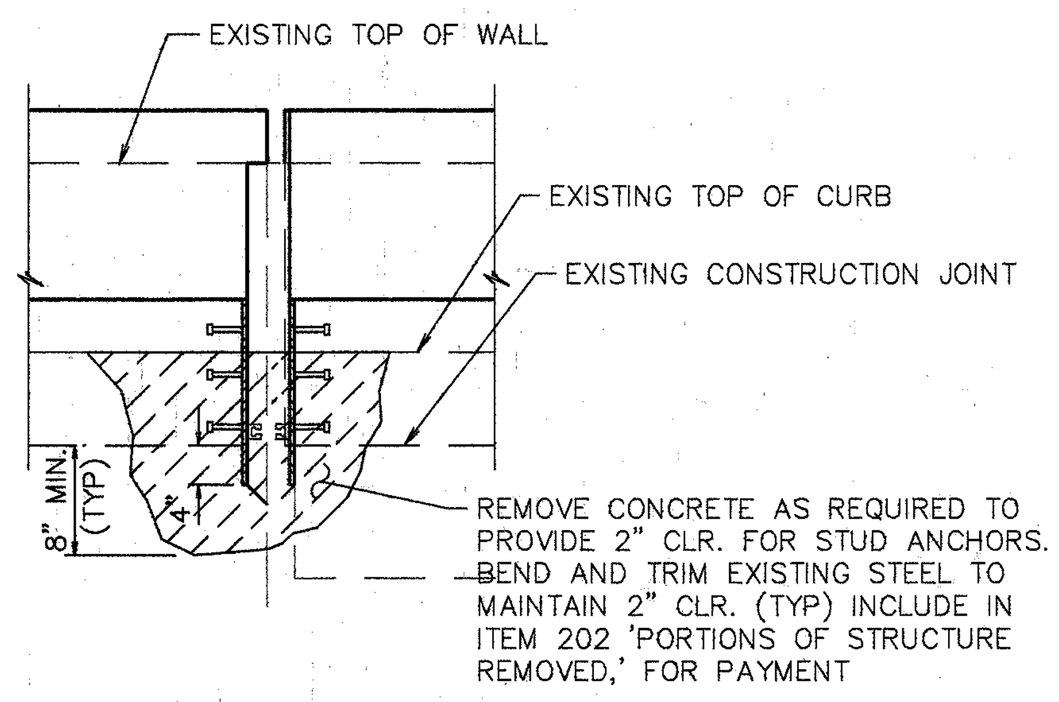
SECTION Q-Q

OPPOSITE HAND FOR RR AND LF

NOTE:
1. EXPANSION JT. DETAILS TO BE WORKED WITH STD. DWG. EXJ-4-87 SHTS. 1 thru 5.
2. WHEN PLATE IS RECESSED INTO ABUTMENT, CONCRETE BELOW PLATE SHALL BE SLOPED FROM BOTTOM OF THE PLATE TO THE END OF THE ABUTMENT TO DETER THE ACCUMULATION OF DEBIS.



SECTION R-R



SECTION S-S

NOTE: IF PORTION OF DECK OR ABUTMENT PARAPET IS TO BE REPLACED, THE ½" PLATES SHALL BE INSTALLED ALONG WITH THE NEW PARAPET.

NOTES:
1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO MODIFYING THE EXPANSION JOINT.
2. THE PRICE BID FOR ITEM 516-'STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS', SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY OTHER INCIDENTIAL ITEMS, AS DETAILED. REMOVAL OF CURB OR PARAPET AS SHOWN SHALL BE INCLUDED UNDER ITEM 202-'PORTIONS OF STRUCTURE REMOVED.
3. FOR DETAILS NOT SHOWN REFER TO DRAWING EXJ-4-87 SHEETS 3 AND 4.
4. STRIP SEAL TO BE INSTALLED IN ONE CONTINUOUS PIECE (NO OPEN JOINTS).
5. PROVIDE TEMPORARY SUPPORT FOR ABUTMENT END DAM DURING CONSTRUCTION. REMOVE TEMPORARY SUPPORT AS SOON AS CONCRETE HAS SET, PREFERABLY WITHIN TWO HOURS AFTER PLACING TO AVOID DAMAGE DUE TO EXPANSION AND CONTRACTION OF SUPERSTRUCTURE.

TEMPERATURE	DIM. 'A' FORWARD	DIM. 'A' REAR
40° F	3⅛"	3¾"
50° F	3"	3½"
60° F	2⅞"	3⅜"
70° F	2¾"	3⅛"
80° F	2⅝"	2⅞"
90° F	2½"	2⅝"

FOR SECTIONS NOT SHOWN SEE SHEET 2&4/7

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MISCELLANEOUS DETAILS

BRIDGE NO. HAM-42-0264R
OVER RAMP RF, NORTHBOUND READING RD. AND EDEN PARK ENT.
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	

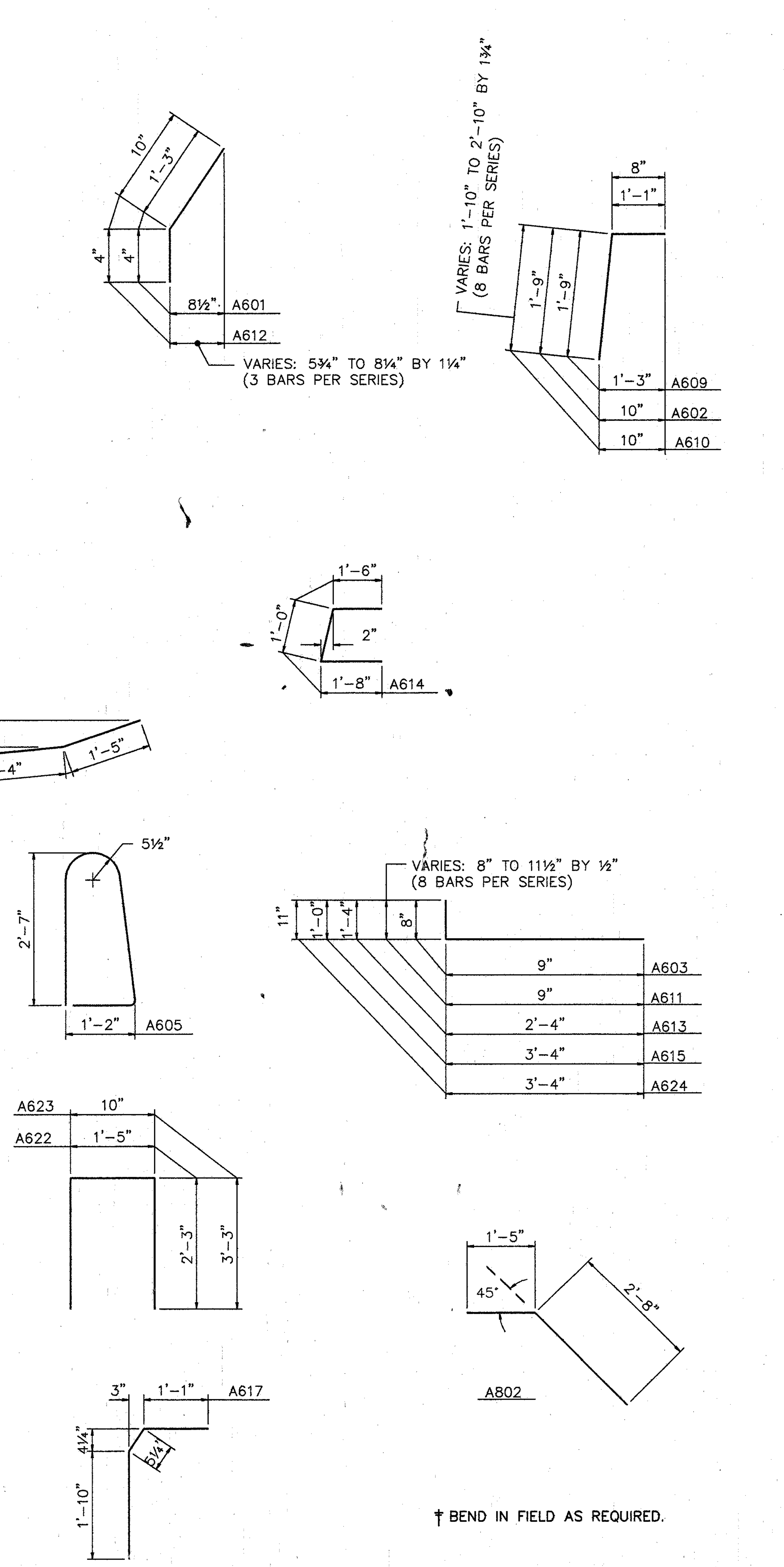
CALC. BY LATM	CHK'D BY DEM DATE 10-4-94	HAM-71-1.30/9.00	OHIO	F.H.W.A. REGION 5	352/401

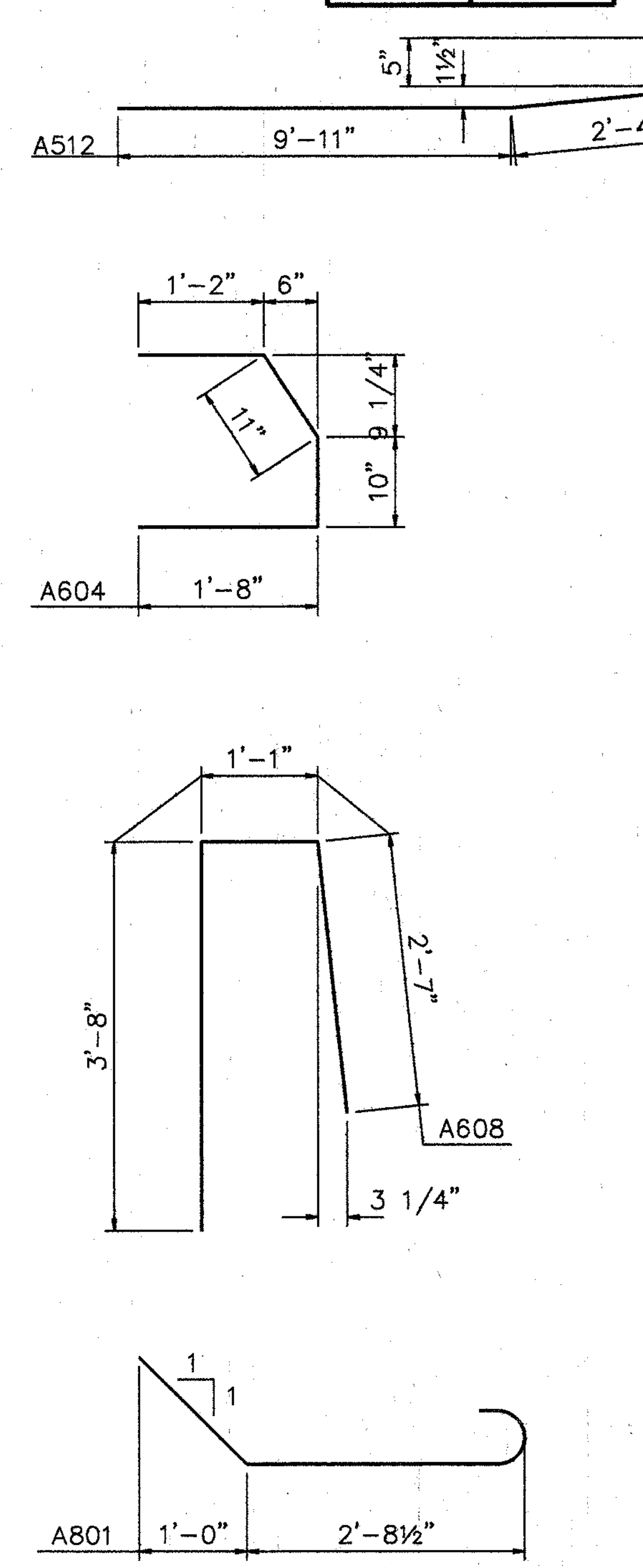
REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
PARAPETS				
A501	STR.	72	30'-0"	2252
A502	STR.	2	23'-2"	48
A503	STR.	2	24'-0"	50
A504	STR.	192	15'-6"	3104
A505	STR.	3	5'-1"	16
A506	STR.	3	15'-0"	473
A507	STR.	3	4'-9"	15
A508	STR.	3	14'-8"	46
A509	STR.	8	4'-2"	35
A510	STR.	8	3'-4"	28
A511	BNT. †	1	13'-8"	14
A512	BNT.	2	13'-8"	28
A513	STR.	1	13'-8"	14
A514	STR.	4	5'-6"	23
A515	STR.	2	8'-0"	17
A516	STR.	2	7'-5"	15
A517	STR.	2	7'-3"	15
A518	STR.	10	3'-7"	37
A519	STR.	11	22'-11"	263
A520	STR.	11	22'-7"	259
A521	STR.	1	6'-0"	6
A522	STR.	1	10'-0"	10
A601	BNT.	939	1'-6"	2116
A602	BNT.	925	2'-5"	3358
A603	BNT.	925	1'-3"	1737
A604	BNT.	8	4'-4"	52
A605	BNT.	11	6'-2"	102
A606	STR.	10	4'-5"	66
A607	STR.	4	4'-0"	24
A608	BNT.	2	7'-0"	21
A609	BNT.	6	2'-9"	25
A610	BNT.	8	2'-6" TO 3'-6"	36
A611	BNT.	8	1'-3" TO 1'-6"	13
A612	BNT.	3	1'-1"	5
A613	BNT.	3	3'-6"	16
A614	BNT.	1	3'-10"	6
A615	BNT.	2	4'-2"	13

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
PARAPETS				
A616	STR.	3	10"	4
A617	BNT.	3	3'-2"	14
A618	BNT. †	8	11'-5"	137
A619	STR.	8	10'-5"	125
A620	STR.	38	6'-5"	366
A621	BNT. †	41	7'-5"	457
A622	BNT.	38	5'-7"	319
A623	BNT.	38	5'-7"	319
A624	STR.	12	4'-1"	74
A701	STR.	4	3'-10"	23
A801	BNT.	25	4'-9"	178
A802	BNT.	38	4'-0"	406
REPLACEMENT STEEL				300
			TOTAL	17161

BENT BAR DETAILS





† BEND IN FIELD AS REQUIRED.

ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	L.S.	PORTIONS OF STRUCTURE REMOVED
514	27704	LUMP	L.S.	FIELD PAINTING, MISC.: EXISTING STEEL, EEU ✱
503	21100	25	C.Y.	UNCLASSIFIED EXCAVATION
509	15824	17161	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
510	12201	109	L.F.	DOWEL HOLES AS PER PLAN
511	34450	5	C.Y.	CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
511	34400	3	C.Y.	CLASS S CONCRETE, SUPERSTRUCTURE, (RECONSTRUCTION)
511	45700	30	C.Y.	CLASS C CONCRETE, ABUTMENT, (RECONSTRUCTION)
SPECIAL	51267500	1722	S.Y.	SEALING OF CONCRETE SURFACE *
516	14600	210	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2"x 4" SEALER, AS PER PLAN
SPECIAL	51267502	170	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
516	11210	96	L.F.	STRUCTURAL EXP. JT., INCLUDING ELASTOMERIC STRIP SEAL
516	14600	13	L.F.	MISC. STRUCTURAL JOINT OR JOINT SEALER: 3"x5" SEALER, AS PER PLAN
516	30500	8	L.F.	PVC WATERSTOP
516	45304	7	EACH	REFURBISH BEARING DEVICE
516	45307	5	EACH	REFURBISH BEARING DEVICE, AS PER PLAN
517	76201	1056	L.F.	RAILING FACED, AS PER PLAN (32" HIGH)
518	12800	6	EACH	SCUPPER MODIFICATION
518	21200	25	C.Y.	POROUS BACKFILL, WITH FILTER FABRIC
518	41100	43	L.F.	6" PERFORATED HELICAL CORRUGATED STEEL PIPE, 707.01
518	63300	LUMP SUM	L.S.	STRUCTURE DRAINAGE, MISC: MODIFY DRAINAGE PIPING
SPECIAL	51912600	64	L.F.	CONCRETE REPAIR BY EPOXY INJECTION *
845	40210	2832	S.Y.	LATEX MODIFIED CONCRETE MISC. OVERLAY (1¾" THICK) ON EXISTING DECK
845	11000	28	C.Y.	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)
845	30000	1	C.Y.	FULL DEPTH REPAIR
516	14600	475	L.F.	SEAL JOINT BETWEEN ABUTMENT AND CONCRETE SLOPE PROTECTION
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
601	21100	10	S.Y.	REPAIR CONCRETE SLOPE PROTECTION

✱ SEE PROPOSAL NOTE

1. MODIFY PARAPETS ON THE SUPERSTRUCTURE & ABUTMENTS. SEAL PARAPETS AS SHOWN ON PLANS. (INSTALL PLATES FOR STRIP SEAL EXP. JT.).
2. SCARIFY EXISTING DECK ¼", AND REMOVE DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER.
3. REFURBISH ALL ABUTMENT BEARINGS.
4. REPLACE NORTH BACKWALL AND APPROACH SLAB AND RECONSTRUCT PORTION OF SOUTH BACKWALL.
5. PLACE 1¾" THICK LATEX MODIFIED CONCRETE ON DECK
6. SEAL JOINTS, AS NOTED.
7. SEAL EXPANSION JOINT WITH STRIP SEAL.
8. REFURBISH DRAINAGE PIPING.
9. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION AND ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTENANCE OF TRAFFIC PLANS. MAINTENANCE OF TRAFFIC PLAN REQUIRES CONSTRUCTION PHASING LIMITS AT LANE CENTERLINES. DUE TO THESE LIMITS, OVERLAY MAY REQUIRE SPECIAL ATTENTION.
10. OTHER WORK AS DESCRIBED IN THESE PLANS.

PROPOSED WORK

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6/7

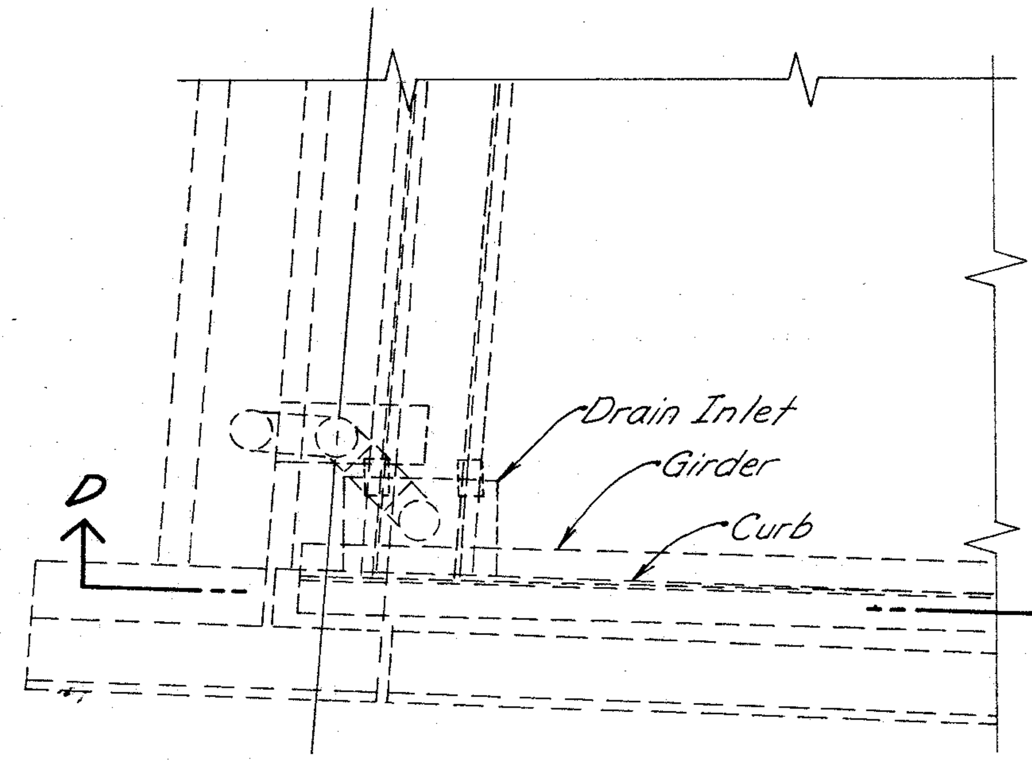
QUANTITIES AND GENERAL NOTES

BRIDGE NO. HAM-42-0264R
OVER RAMP RF, NORTHBOUND READING RD. AND EDEN PARK ENT.
HAMILTON COUNTY

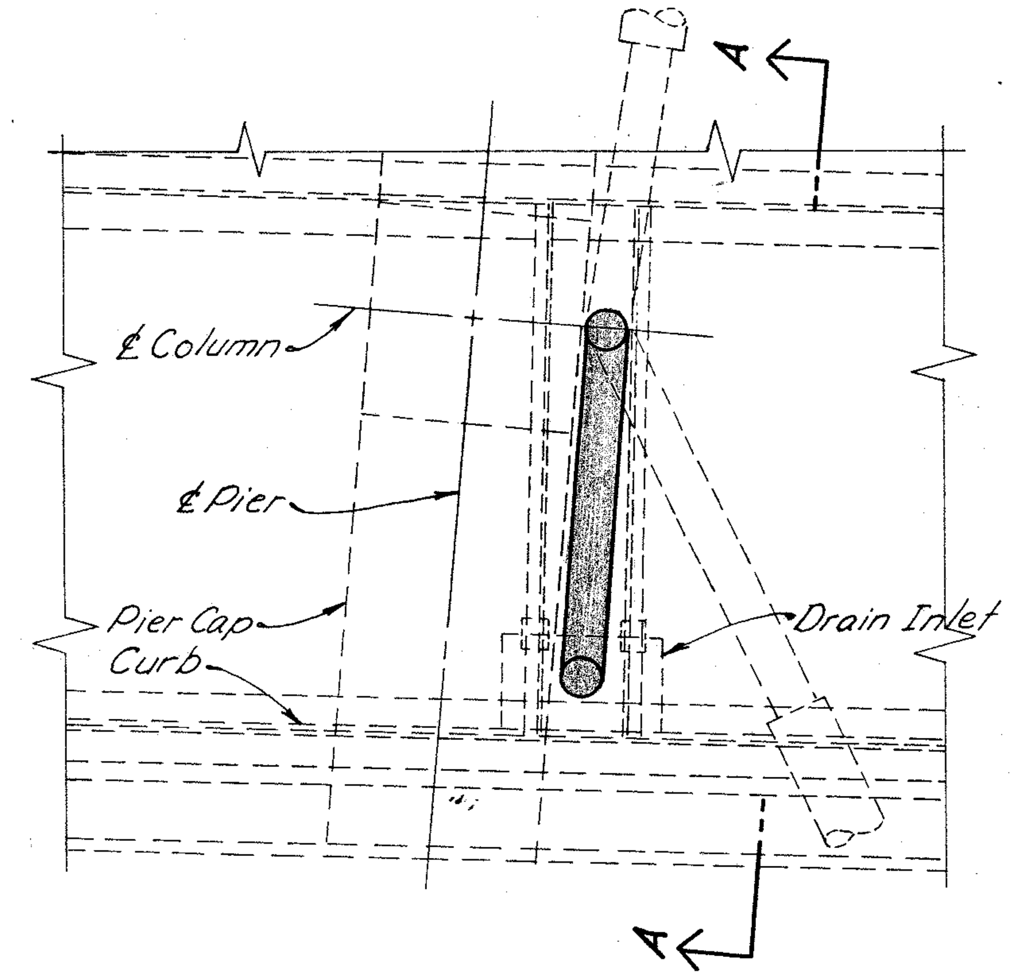
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	

F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

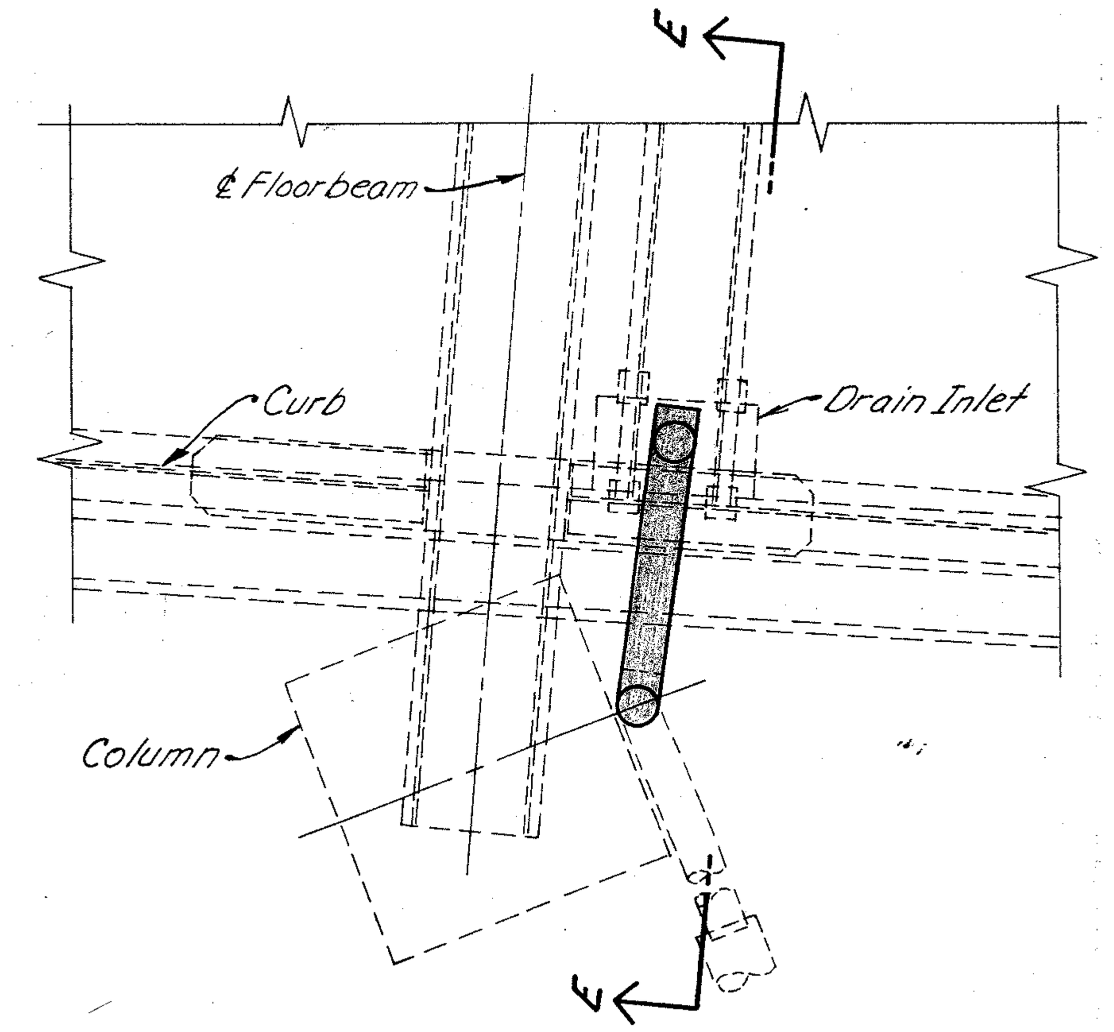
HAM-71-1.30/9.00



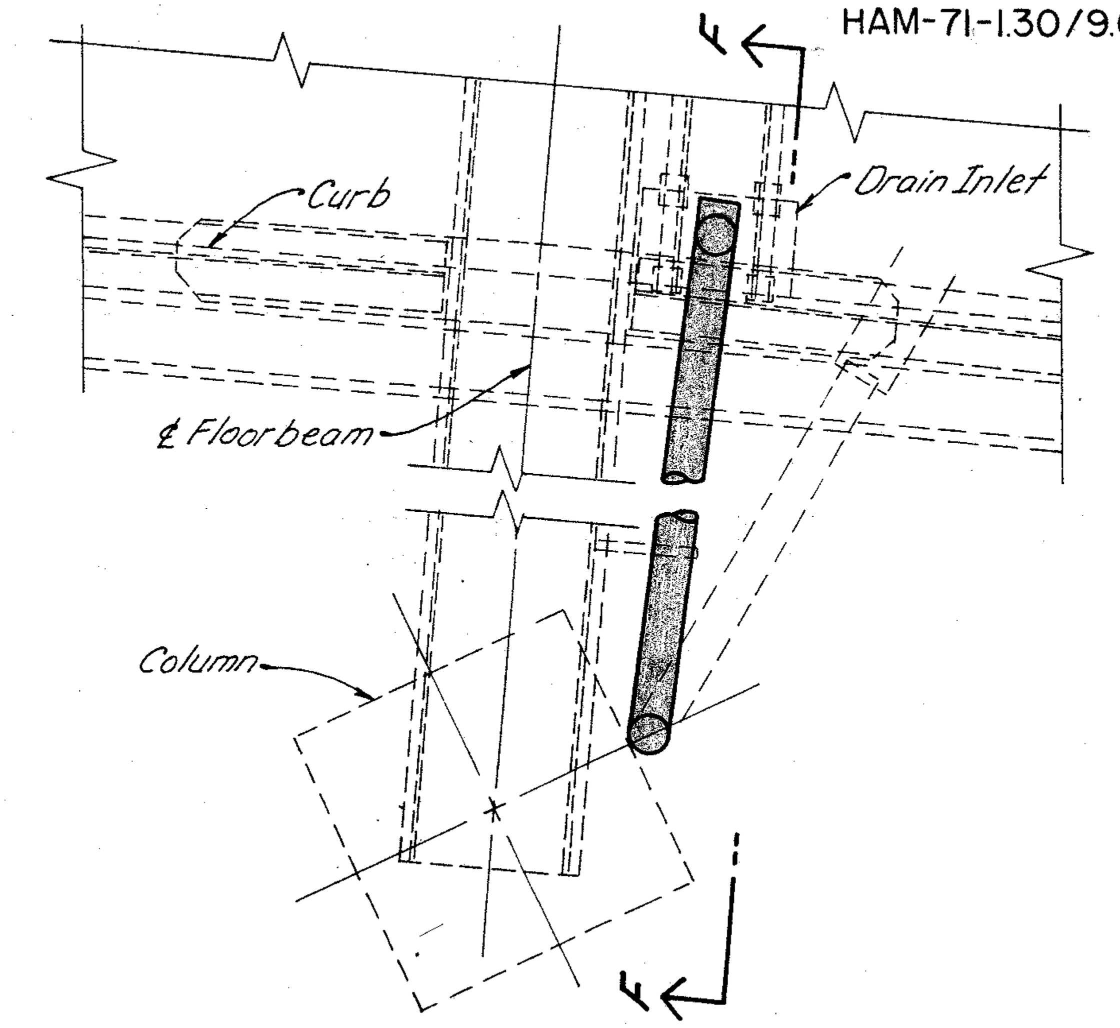
PLAN FOR DRAIN INLET AT SOUTH ABUTMENT
(No Work Req'd)



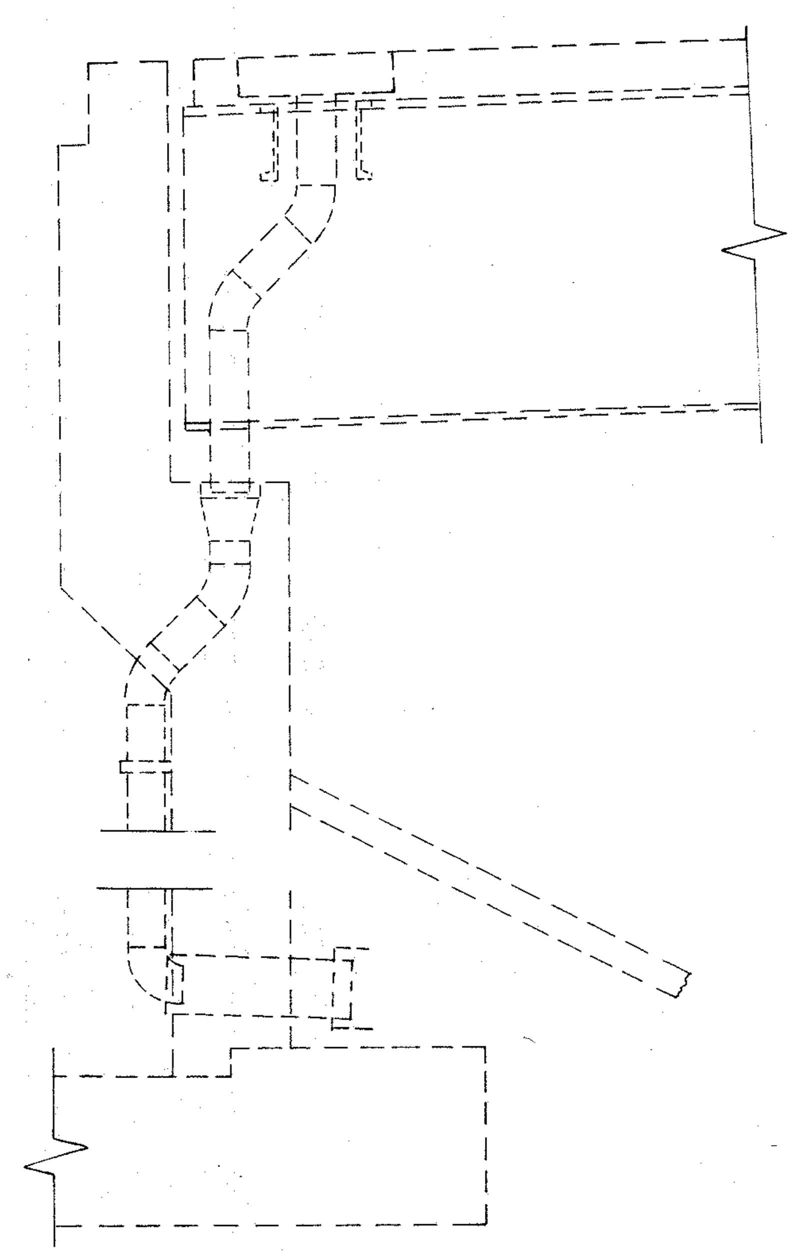
PLAN FOR DRAIN INLET AT PIER 1
(Pier 5 Similar)



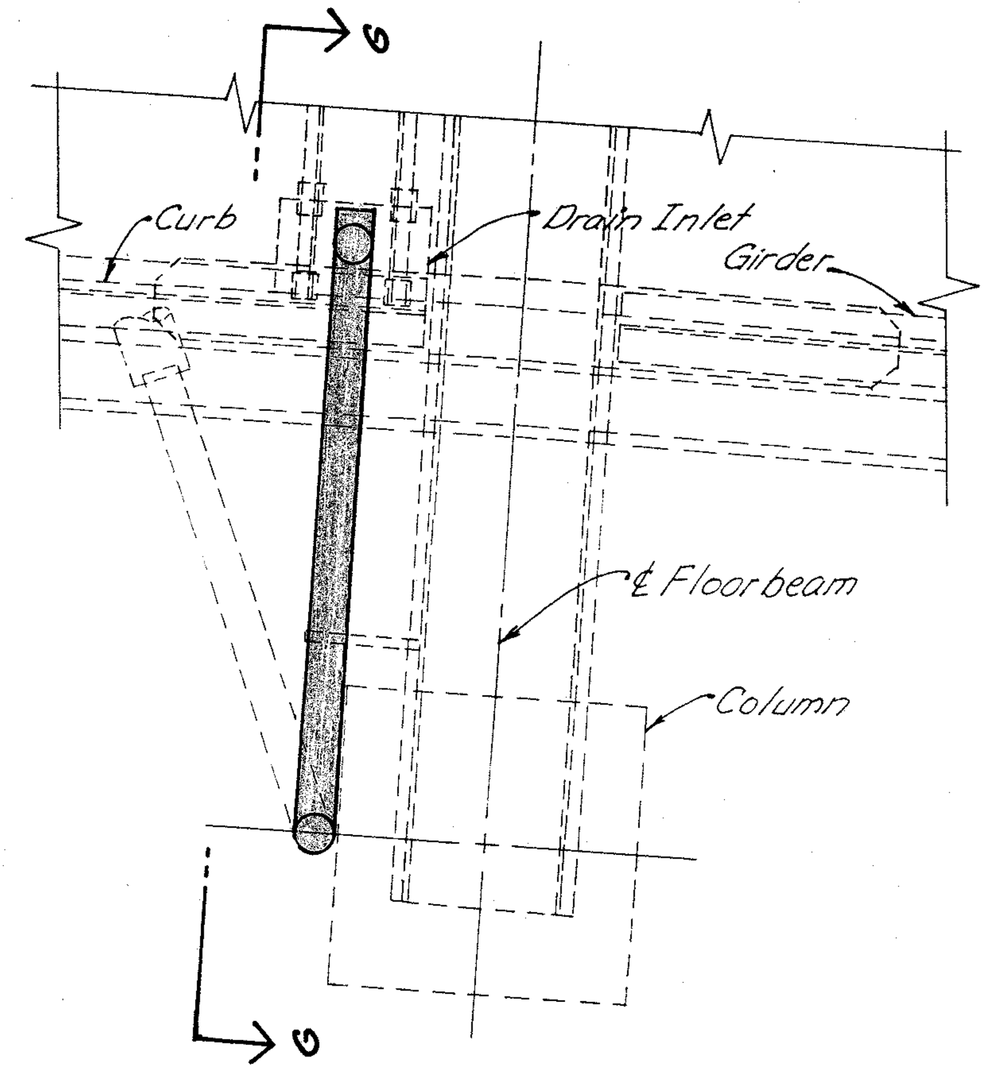
PLAN FOR DRAIN INLET AT PIER 2



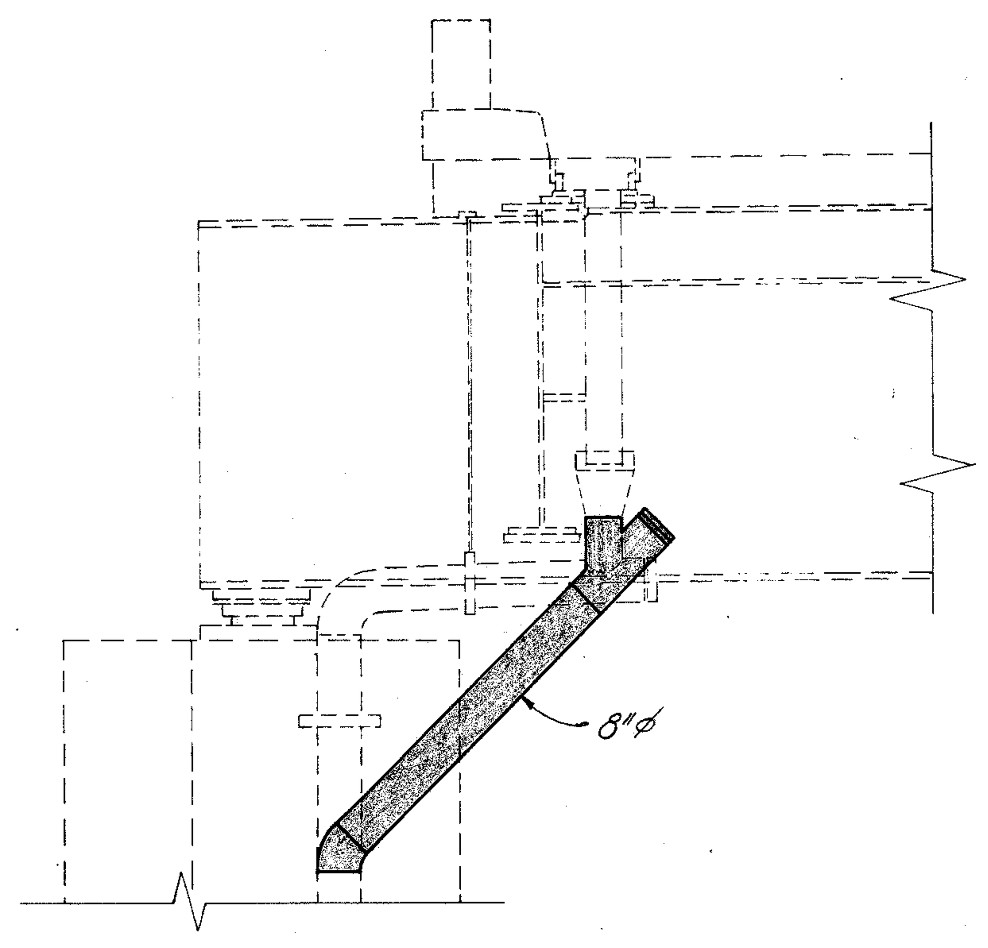
PLAN FOR DRAIN INLET AT PIER 3



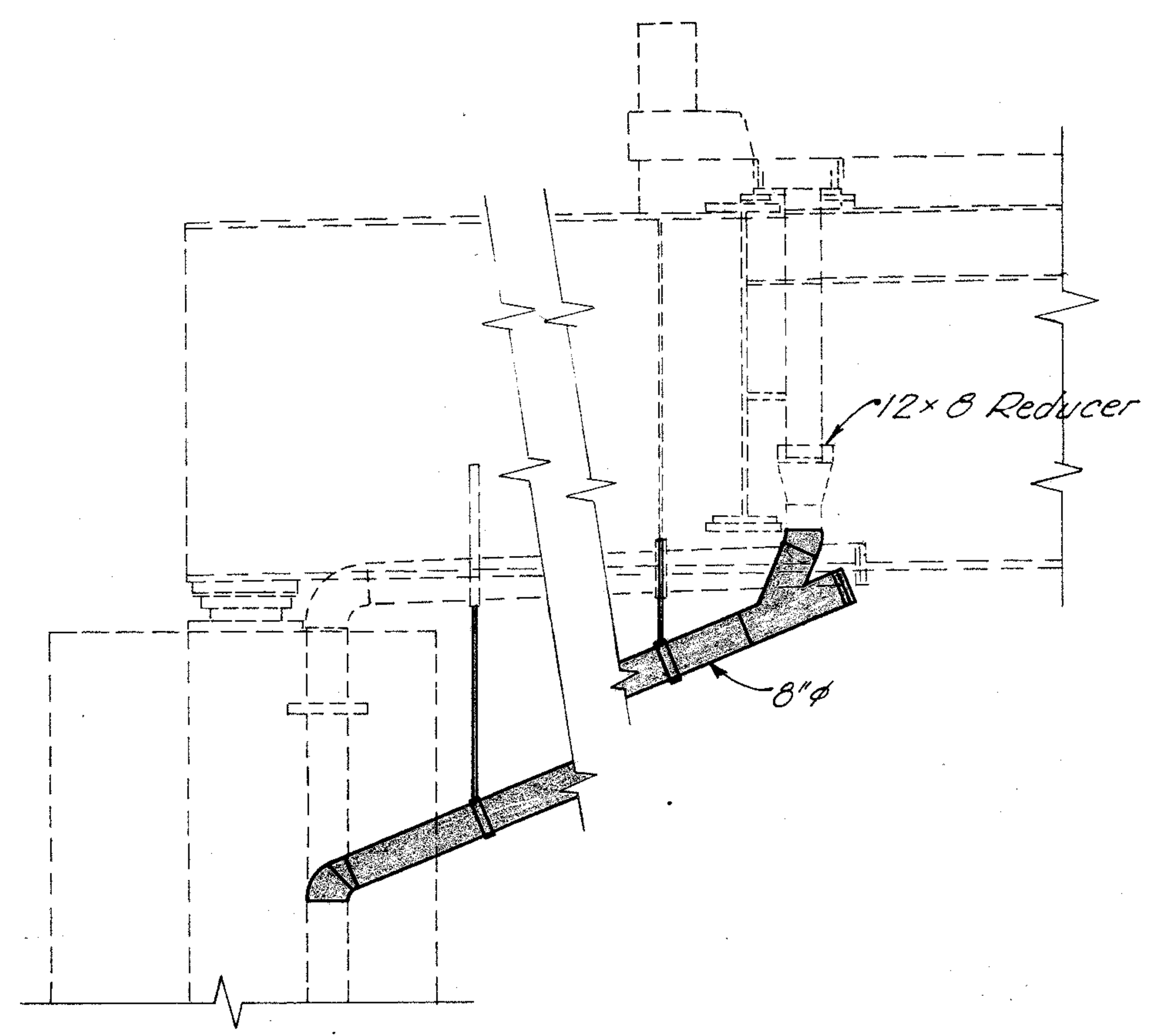
SECTION D-D



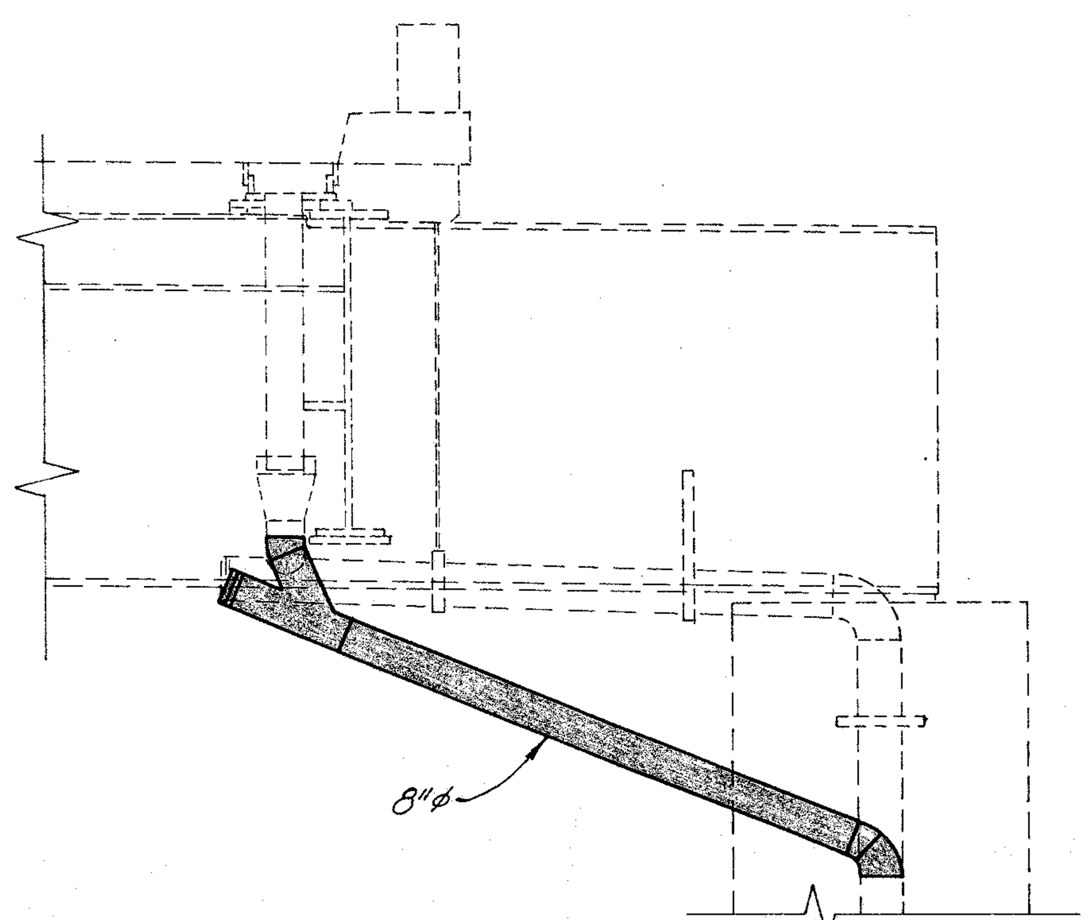
PLAN FOR DRAIN INLET AT PIER 4



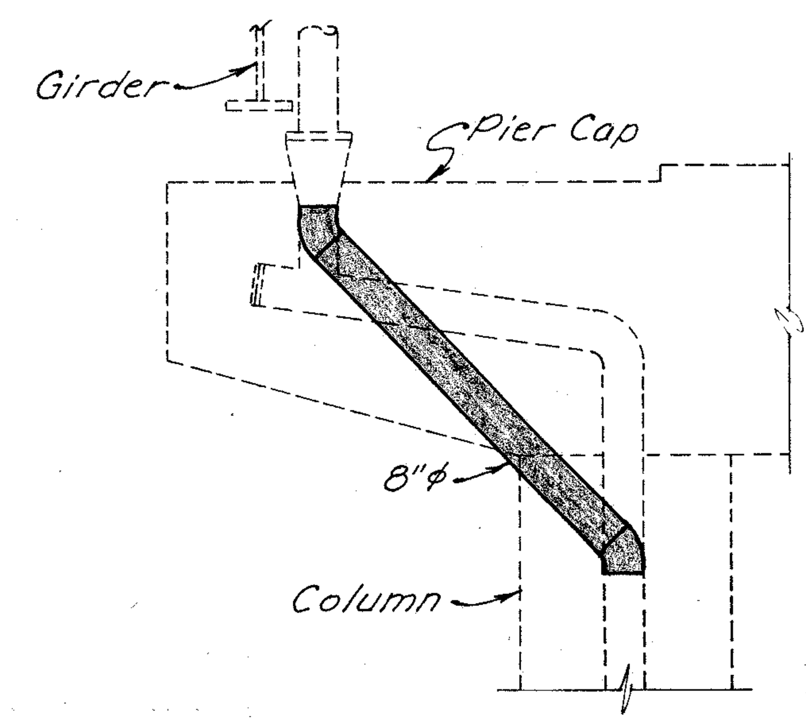
SECTION E-E



SECTION F-F



SECTION G-G



SECTION A-A

1. For drainage piping requirements see General Notes on sht 273/401
2. Approximate № of Linear Feet of proposed 8"φ pipe (including specials) = 106

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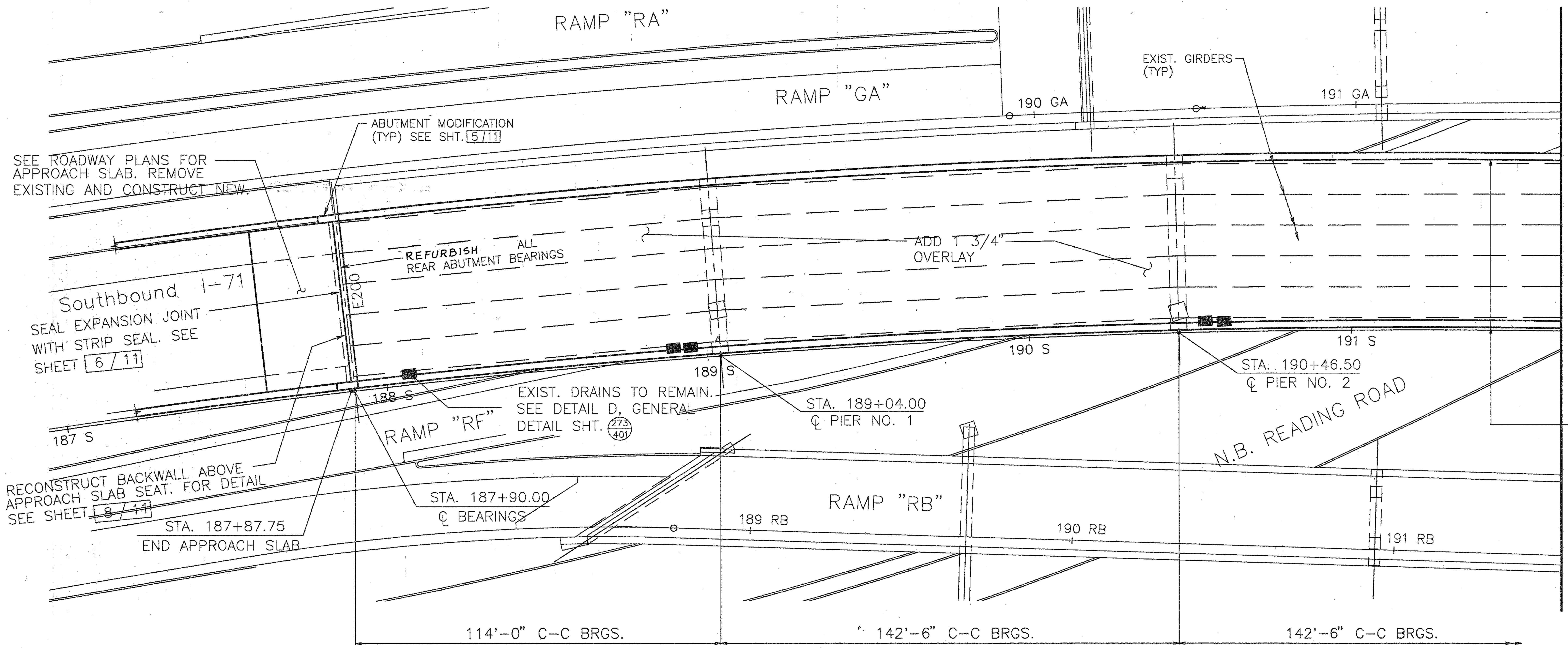
DRAINAGE DETAILS

BRIDGE NO. HAM-42-0264 R
OVER READING ROAD

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	RACH		D.E.M.	P.W.G.	11/11/94	

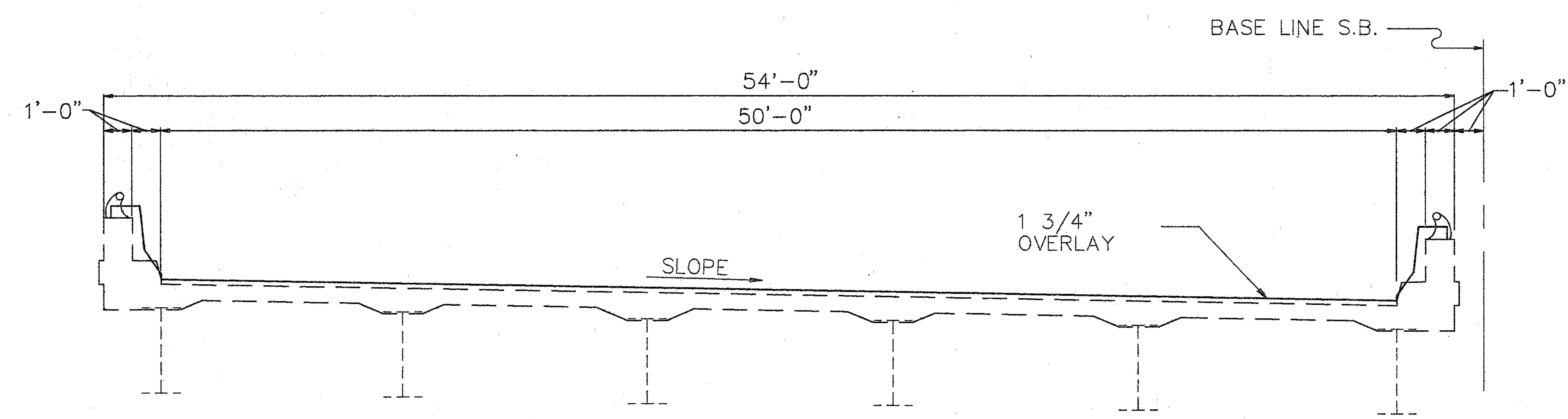


MODIFY BRIDGE RAILING. SEE SECTION A-A TYPE "A" GENERAL DETAIL SHEET 273/401 FOR ELEVATION SEE SHT. 5/11

NOTE:
1. SEAL PARAPETS, BACKWALLS, AND PIERS.
2. SEE JUNCTION BOX EXTENSION DETAIL GENERAL DETAIL SHT. 273/401 FOR BARRIER RETROFIT AT JUNCTION BOXES.

SLIDING ℞ SIZE	JACK CAPACITY REQ'D. (MIN)
E200	125 TON
E150	125 TON

PLAN



TYPICAL BRIDGE SECTION

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL PLATE GIRDERS WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: 114'-0", 142'-6", 142'-6", 98'-0", 90'-6", 94'-6", 68'-6" (SPAN LENGTHS MEASURED ALONG ℞)
ROADWAY: 50'-0" F/F CURBS W/1'-0" CURBS =52'-0" F/F PARAPETS
SKEW: 90°(TANGENT TO CURVE)
LOADING FREQUENCY: CF=2000(57) ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: VARIES, SEE PLAN
SUPERELEVATION: VARIES, SEE PLAN

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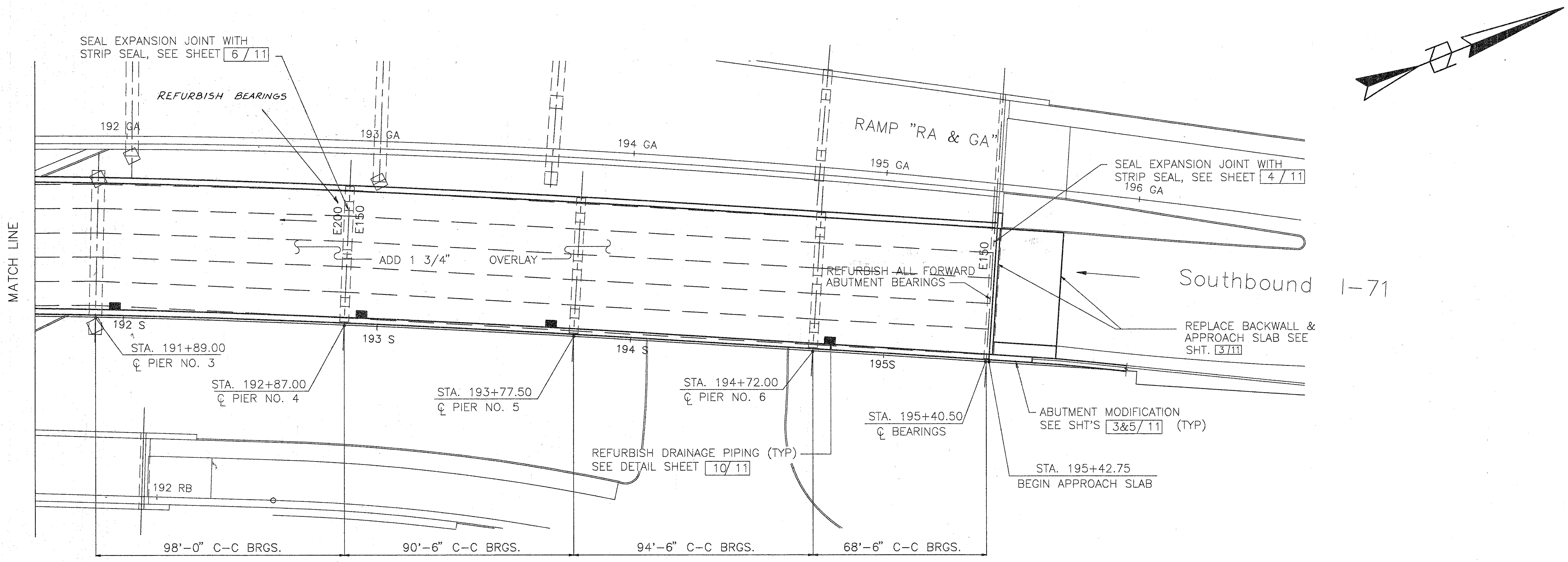
1/11

GENERAL PLAN

BRIDGE NO. HAM-71-0243L
OVER N.B. READING ROAD

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	1/11/94	



PLAN

NOTES:

1. SEAL PARAPETS, BACKWALLS, AND PIERS. SEAL ALL OF PIERS 1 THRU 3, 5 AND 6 EXCEPT THE TOP OF THE PIERS CAPS. SEAL ALL OF PIER 4 EXCEPT 1/4 OF THE AREA OF COLUMNS AWAY FROM TRAFFIC.
2. SEE JUNCTION BOX EXTENSION DETAIL GENERAL DETAIL SHT. 273/401 FOR BARRIER RETROFIT AT JUNCTION BOXES.

SLIDING ℞ SIZE	JACK CAPACITY REQ'D. (MIN)
E200	125 TON
E150	125 TON

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2/11

GENERAL PLAN

BRIDGE NO. HAM-71-0243L
OVER N.B. READING ROAD

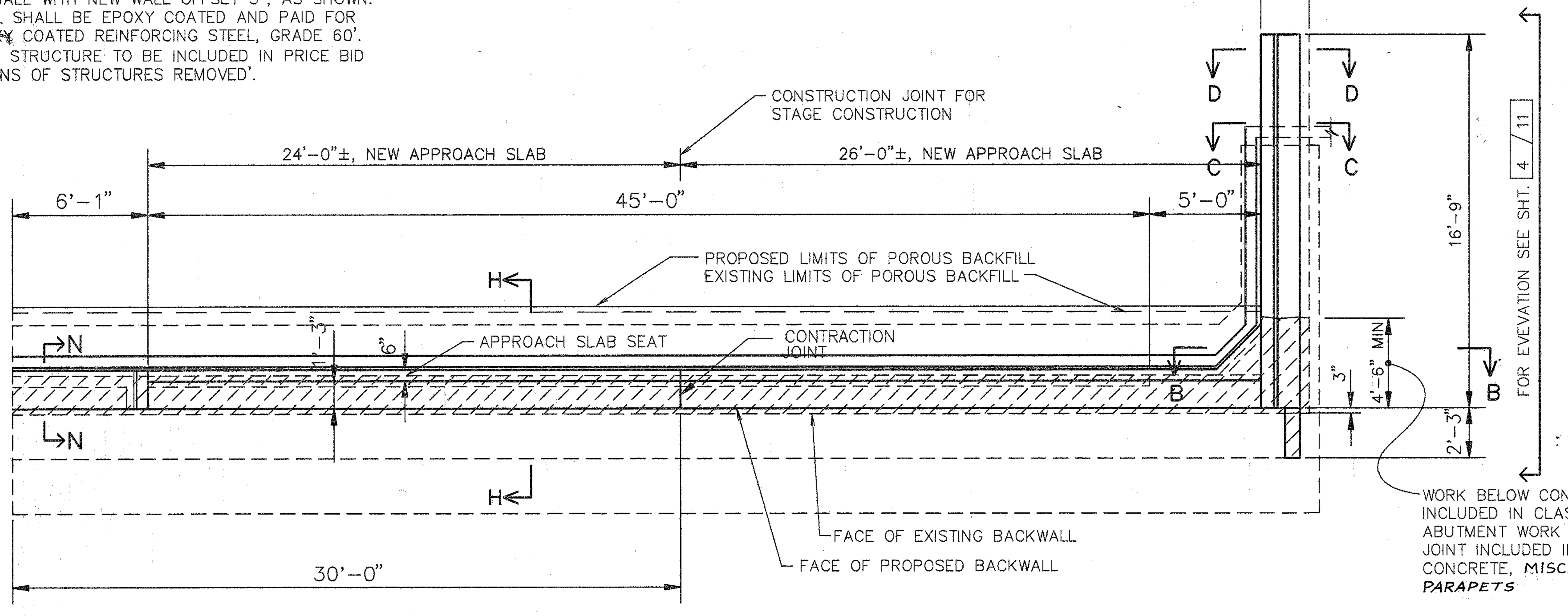
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 11/11/94	

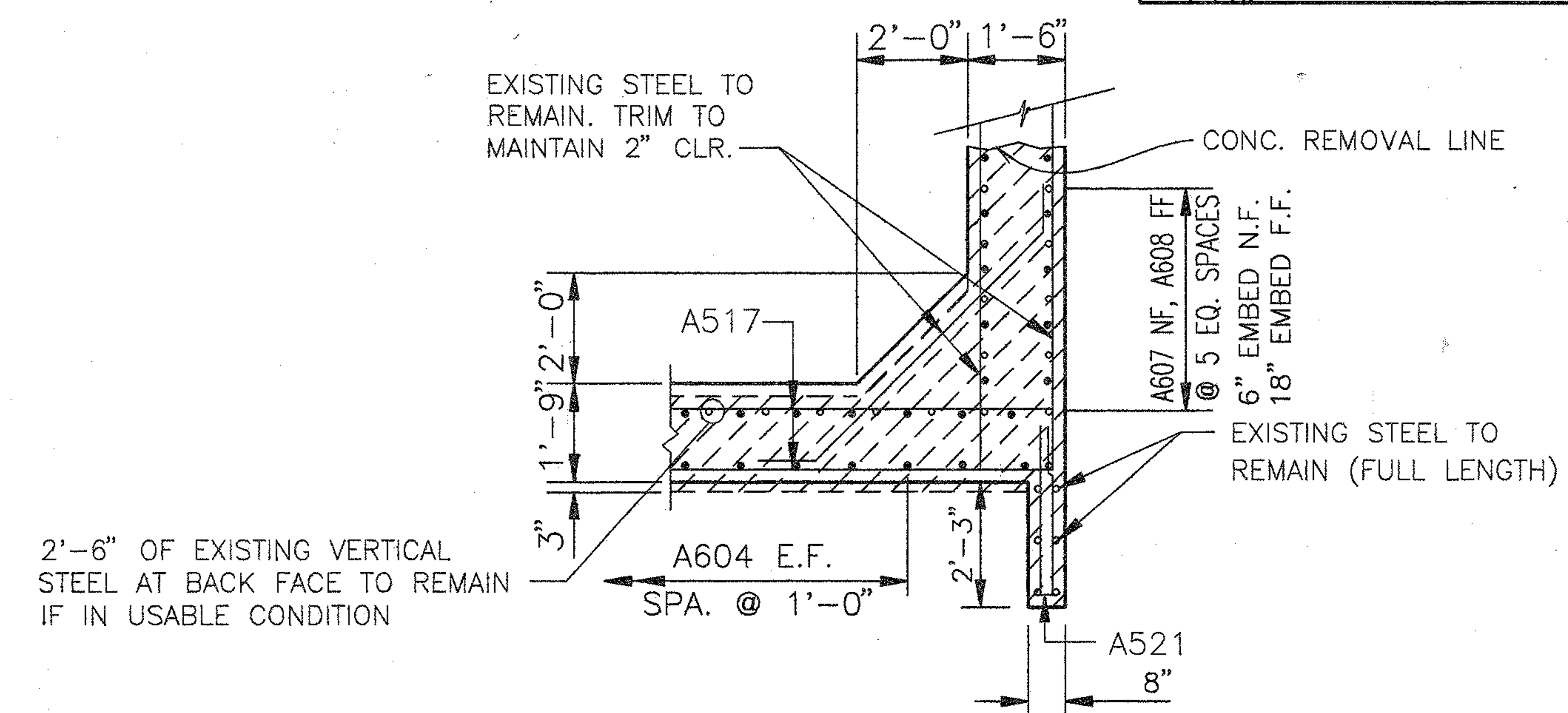
Last Plot: MAY 15, 1991 @ 5:30 PM Last Revision By: RACH OCT. 8, 1992 @ 11:53 AM

NOTES:

1. REPLACE ENTIRE BACKWALL WITH NEW WALL OFFSET 3", AS SHOWN.
2. ALL REINFORCING STEEL SHALL BE EPOXY COATED AND PAID FOR UNDER ITEM 509-'EPOXY COATED REINFORCING STEEL, GRADE 60'.
3. COST FOR REMOVAL OF STRUCTURE TO BE INCLUDED IN PRICE BID FOR ITEM 202-'PORTIONS OF STRUCTURES REMOVED'.

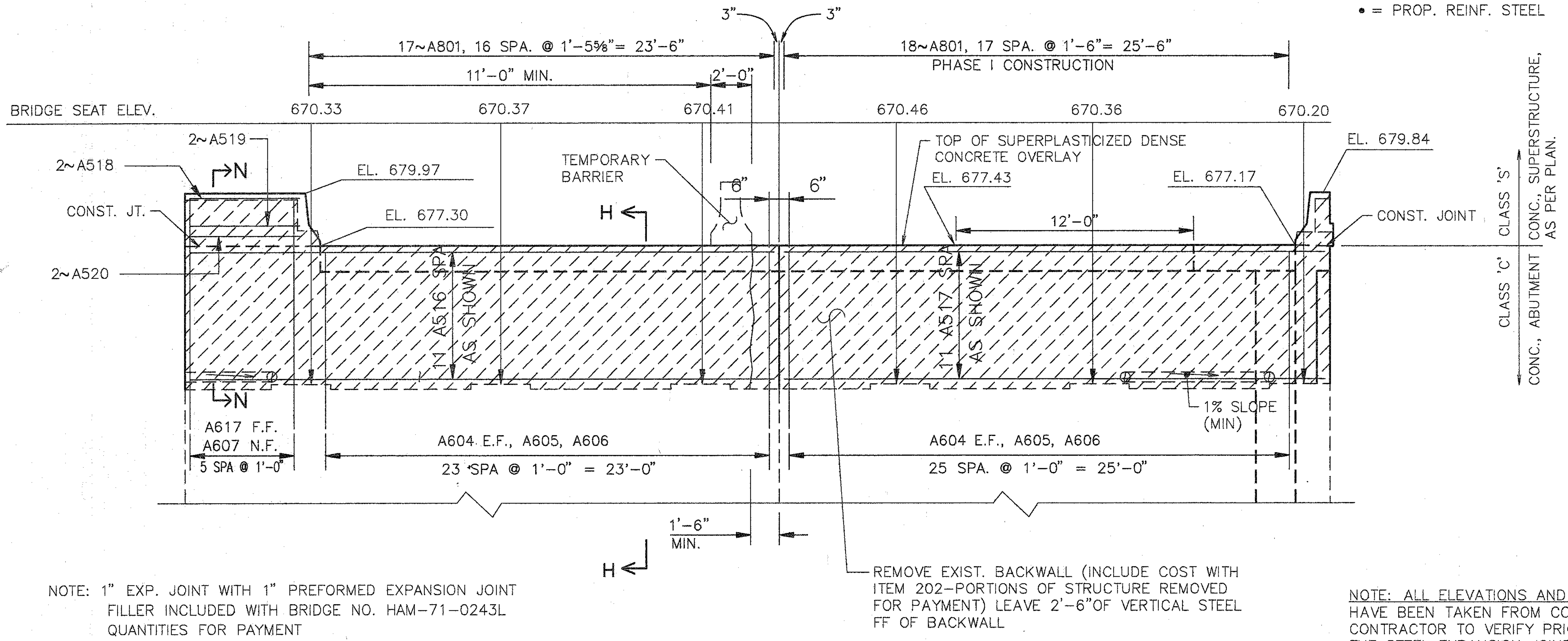


PLAN-FORWARD ABUTMENT



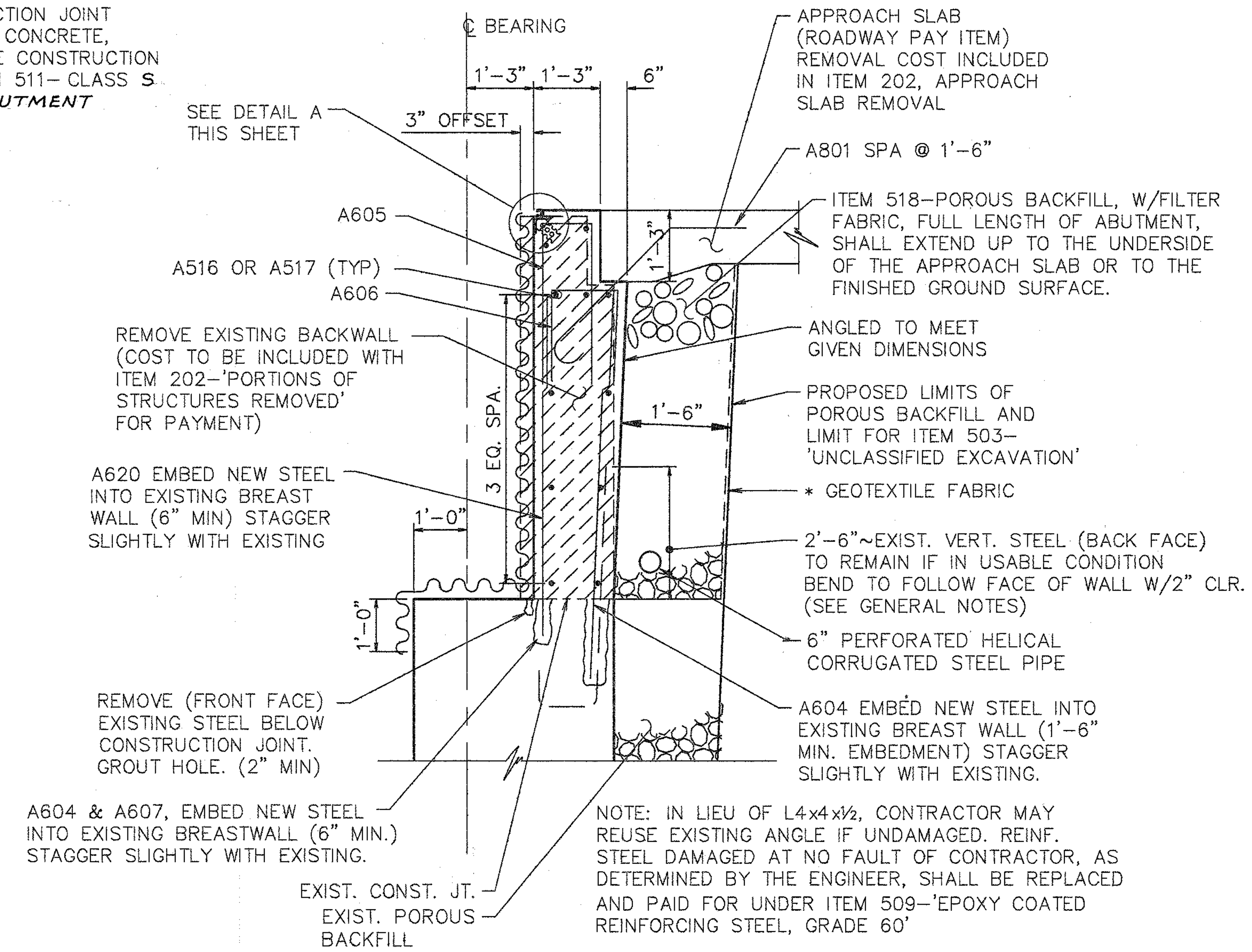
CORNER DETAIL

LEGEND:
FF= FAR FACE
NF= NEAR FACE
EF= EACH FACE
∘ = EXIST. REINF. STEEL
• = PROP. REINF. STEEL



NOTE: 1" EXP. JOINT WITH 1" PREFORMED EXPANSION JOINT FILLER INCLUDED WITH BRIDGE NO. HAM-71-0243L QUANTITIES FOR PAYMENT

ELEVATION-FORWARD ABUTMENT



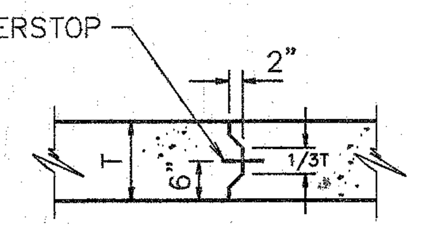
NOTE: IN LIEU OF L4x4x½, CONTRACTOR MAY REUSE EXISTING ANGLE IF UNDAMAGED. REINF. STEEL DAMAGED AT NO FAULT OF CONTRACTOR, AS DETERMINED BY THE ENGINEER, SHALL BE REPLACED AND PAID FOR UNDER ITEM 509-'EPOXY COATED REINFORCING STEEL, GRADE 60'

* GEOTEXTILE FABRIC SHALL CONFORM TO 712.09 TYPE A AND BE INCLUDED WITH THE POROUS BACKFILL FOR PAYMENT.

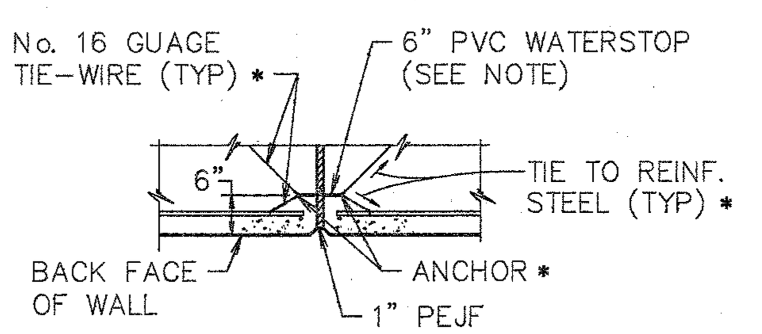
SECTION H-H

∿∿∿ SURFACE TO BE SEALED UNDER ITEM SPECIAL-'SEALING OF CONCRETE SURFACES, EPOXY.'

NOTE: ALL ELEVATIONS AND DIMENSIONS SHOWN HAVE BEEN TAKEN FROM CONSTRUCTION DRAWINGS. CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION. THE STEEL EXPANSION JOINT SHALL SERVE AS A TEMPLATE FOR THE TOP OF THE BACKWALL.

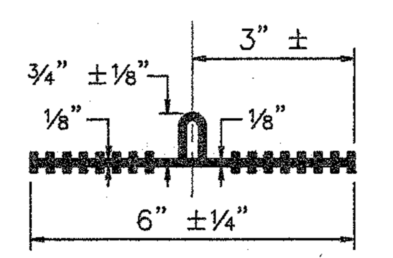


CONTRACTION JOINT



EXPANSION JOINT

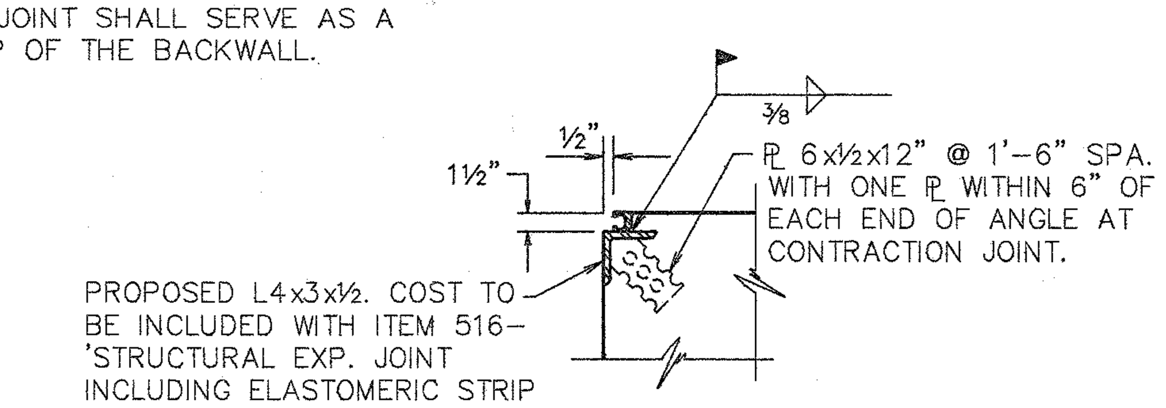
(COST INCLUDED WITH BRIDGE HAM-71-0243L)



PVC WATERSTOP DETAIL

* FOR THE FIRST POUR, THE WATERSTOP SHOULD BE HELD SECURELY IN PLACE BY THE USE OF SPLIT FORMS AND TIE-WIRES. FOR THE SECOND POUR, SECURE THE FREE END OF WATERSTOP IN PROPER POSITION WITH TIE-WIRES. ALTERNATE METHODS, AS APPROVED BY THE ENGINEER, MAY BE USED TO INSURE THE CORRECT POSITIONING OF THE WATERSTOP.

6" PVC WATERSTOP SHALL BE CENTERED ON THE CONTRACTION JOINTS AND EXPANSION JOINTS ABOVE THE ABUTMENT BEAM SEAT AND 6" BELOW APPROACH SLAB SEAT OR GRADE AS APPLICABLE. THE WATERSTOP SHALL BE CAPABLE OF ACCOMODATING 1½" OF JOINT MOVEMENT.



DETAIL A

SEE SECTION M-M, SHT. 8/11 FOR SUPERSTRUCTURE

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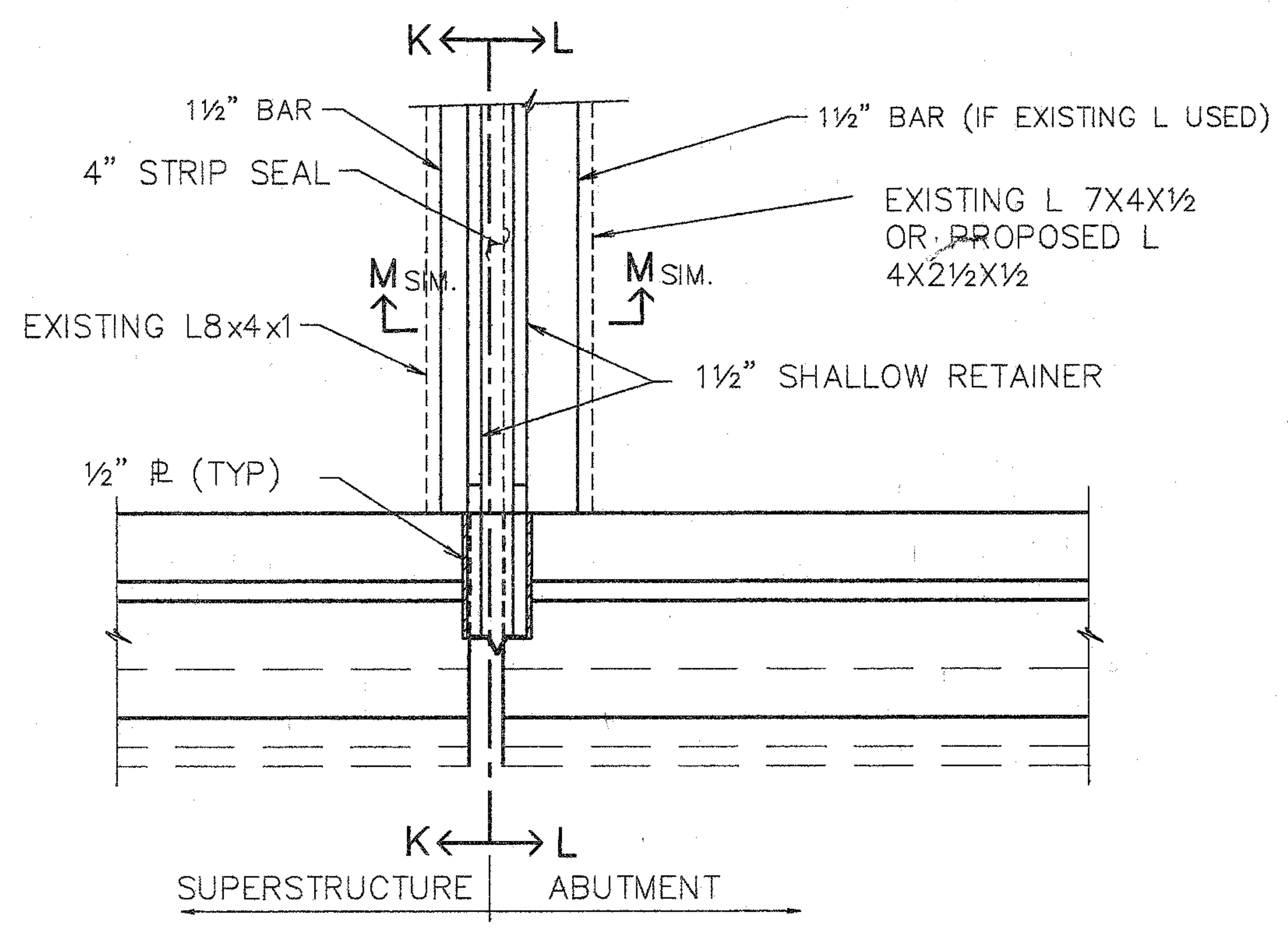
3/11

FORWARD ABUTMENT BACKWALL REPLACEMENT

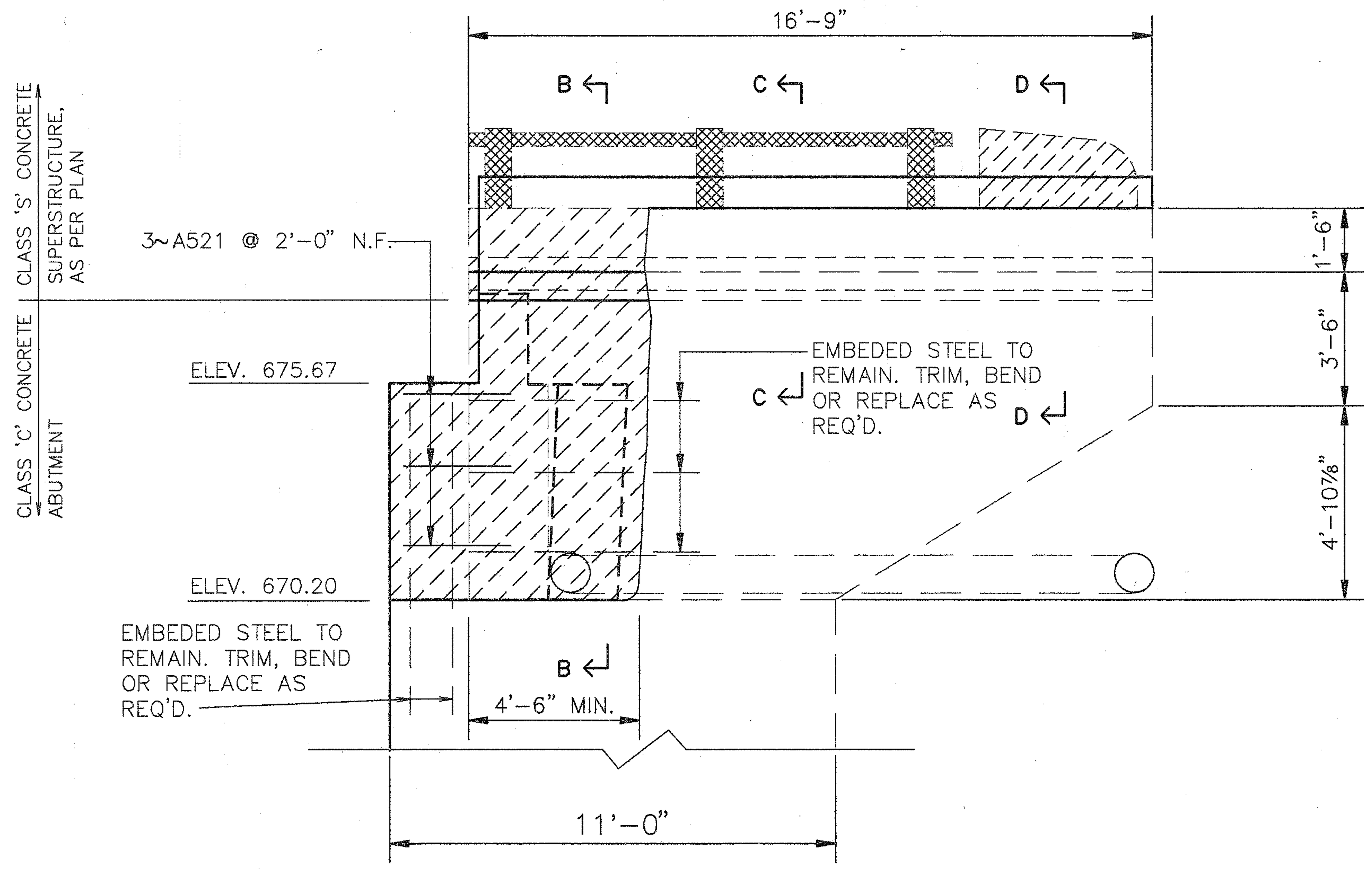
BRIDGE NO. HAM-71-0243L OVER N.B. READING ROAD

HAMILTON COUNTY

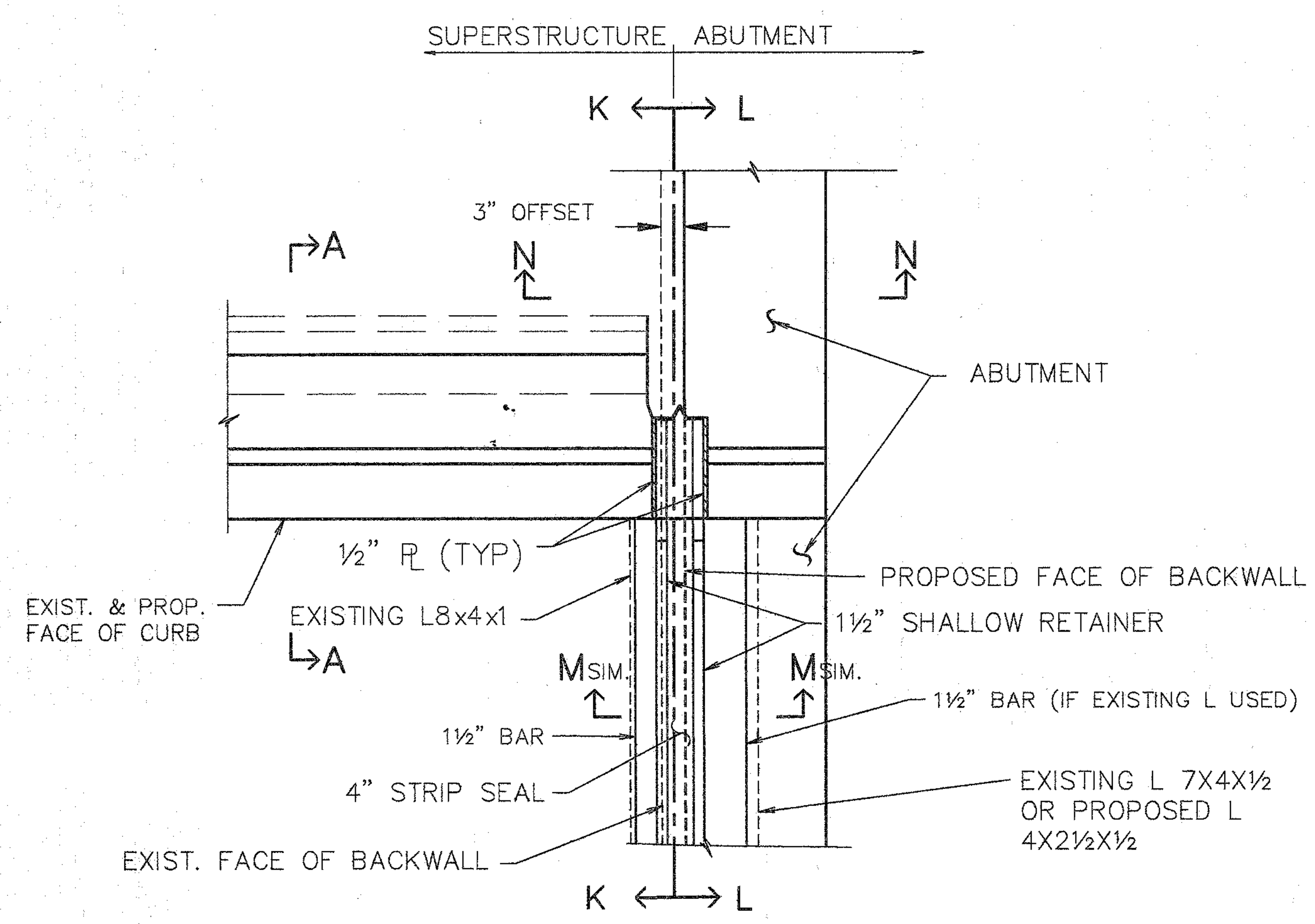
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	11/11/94	



PART PLAN @ RIGHT FORWARD



ELEVATION FORWARD WINGWALL (RIGHT)



PART PLAN @ LEFT FORWARD

Last Plot MAY 15, 1991 @ 5:33 PM Last Revision By: RACH OCT. 8, 1992 @ 1:04 PM

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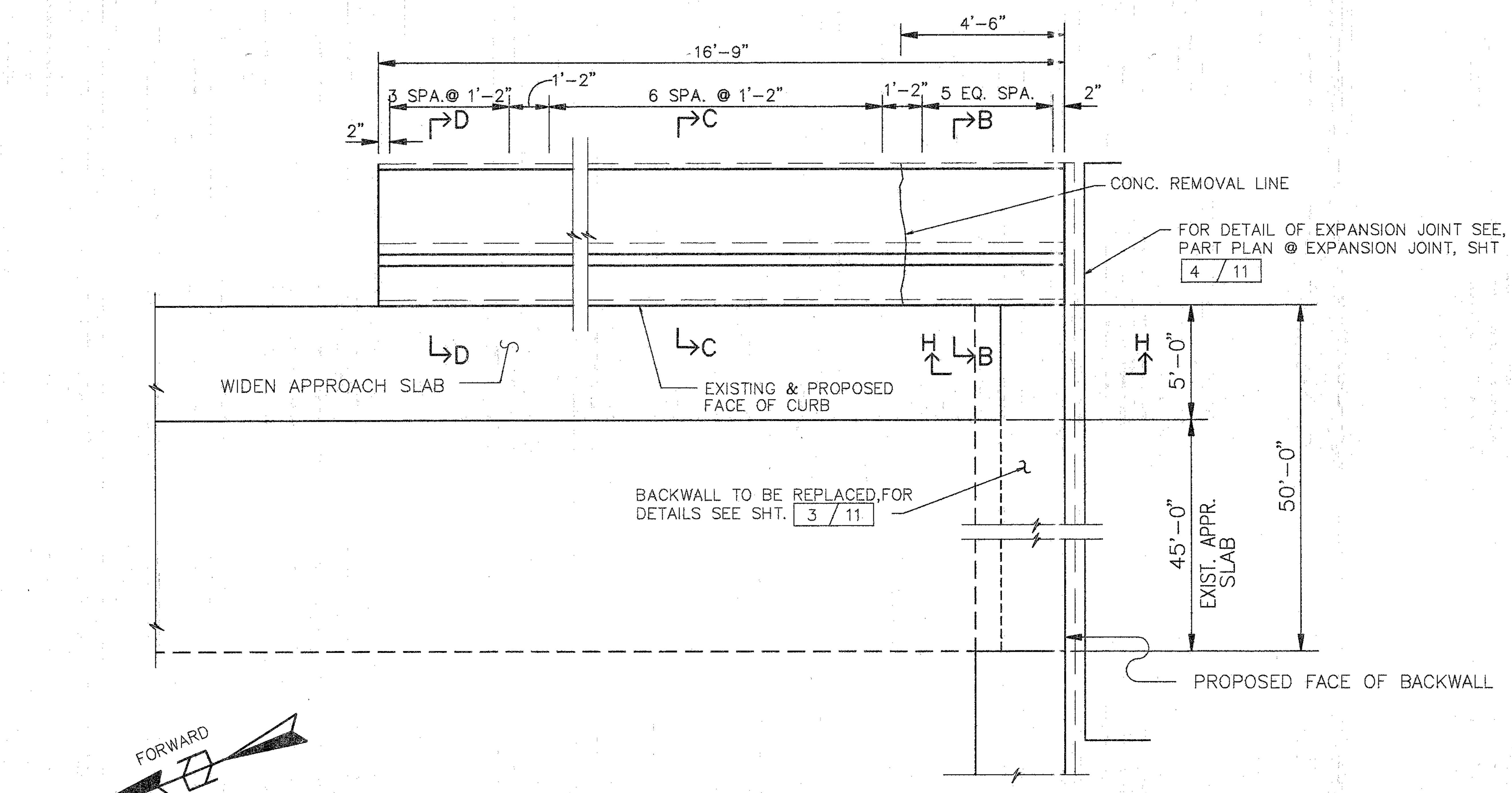
FORWARD ABUTMENT AND EXPANSION JOINT

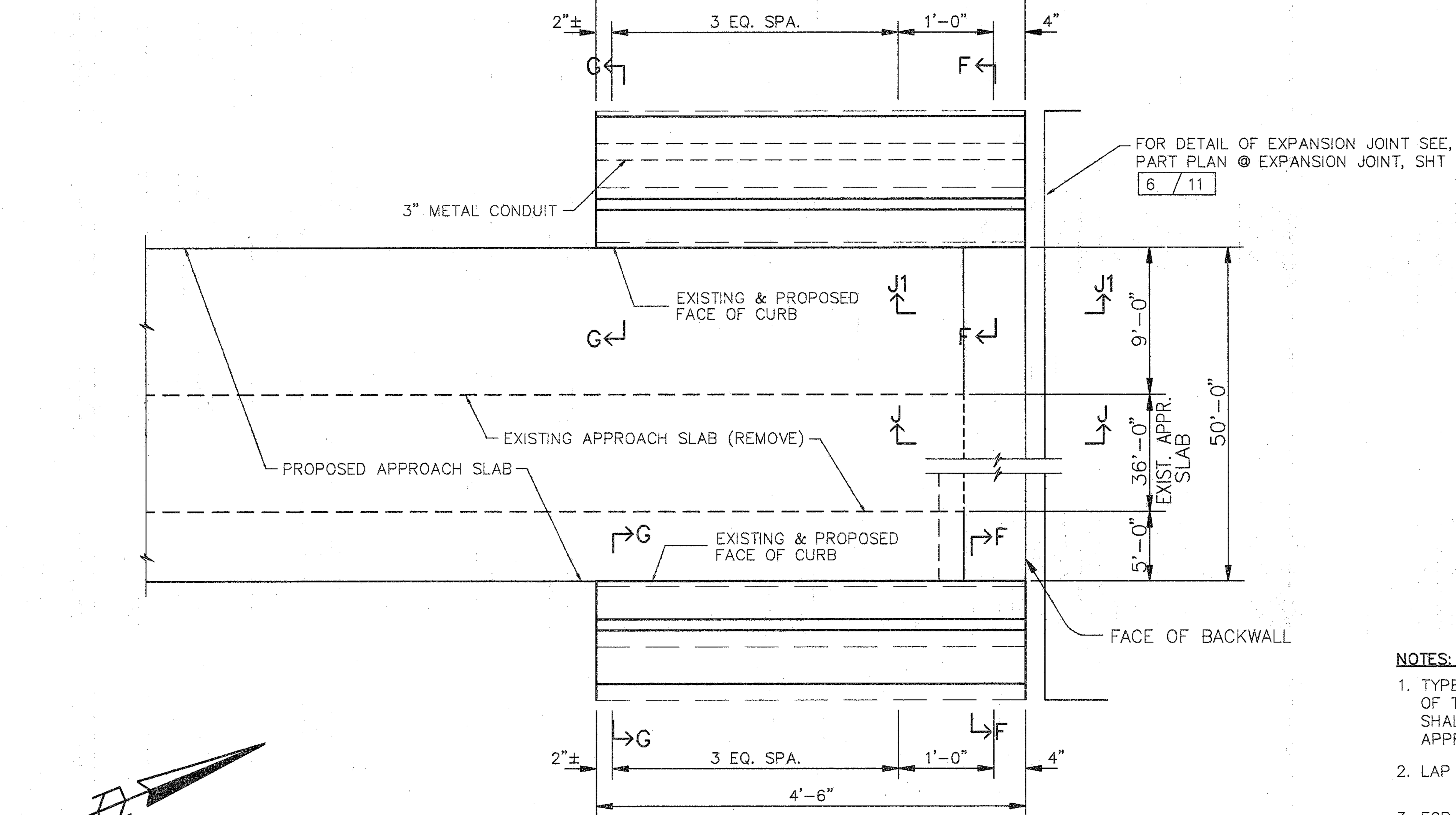
BRIDGE NO. HAM-71-0243L
OVER N.B. READING ROAD

HAMILTON COUNTY

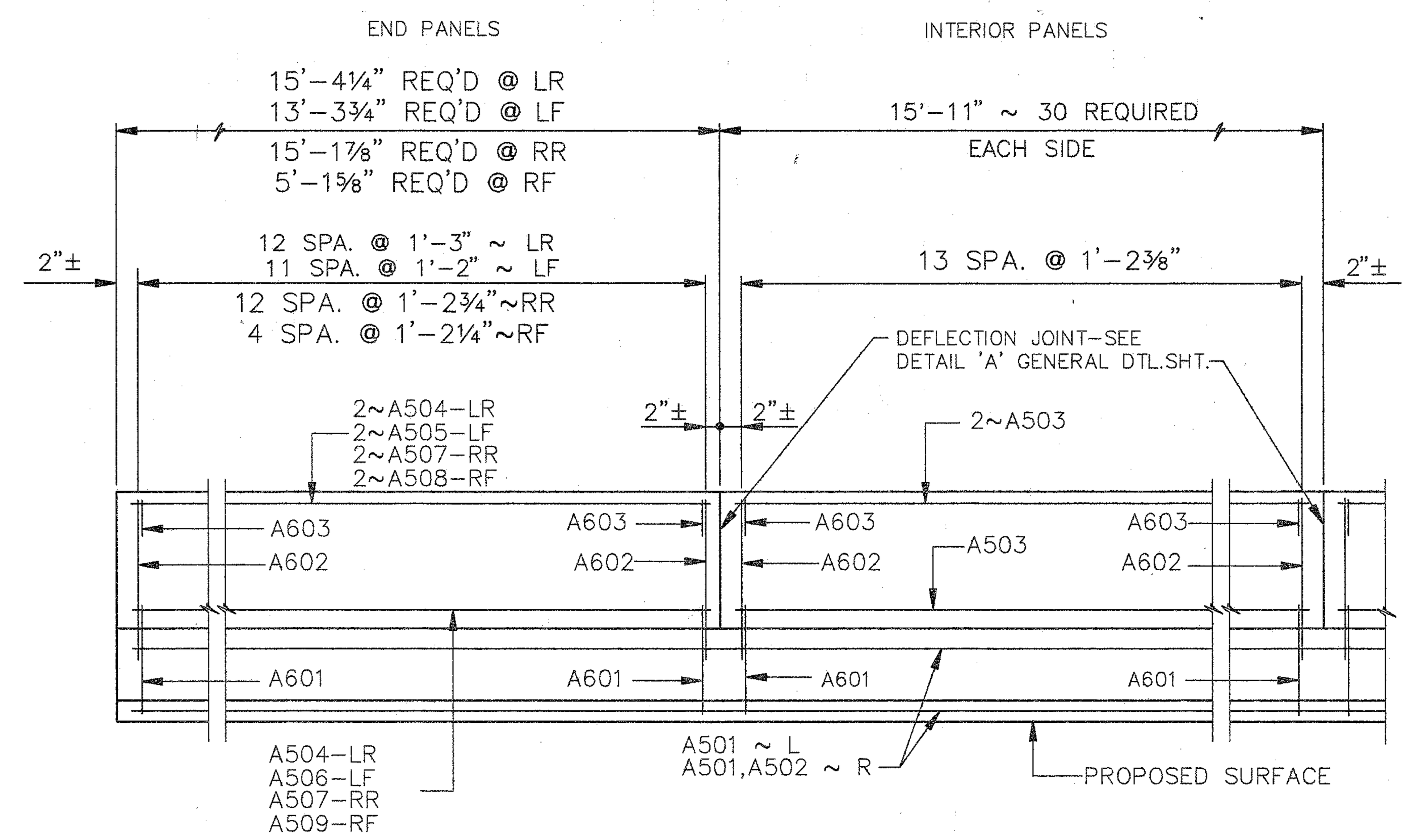
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 11/11/94	



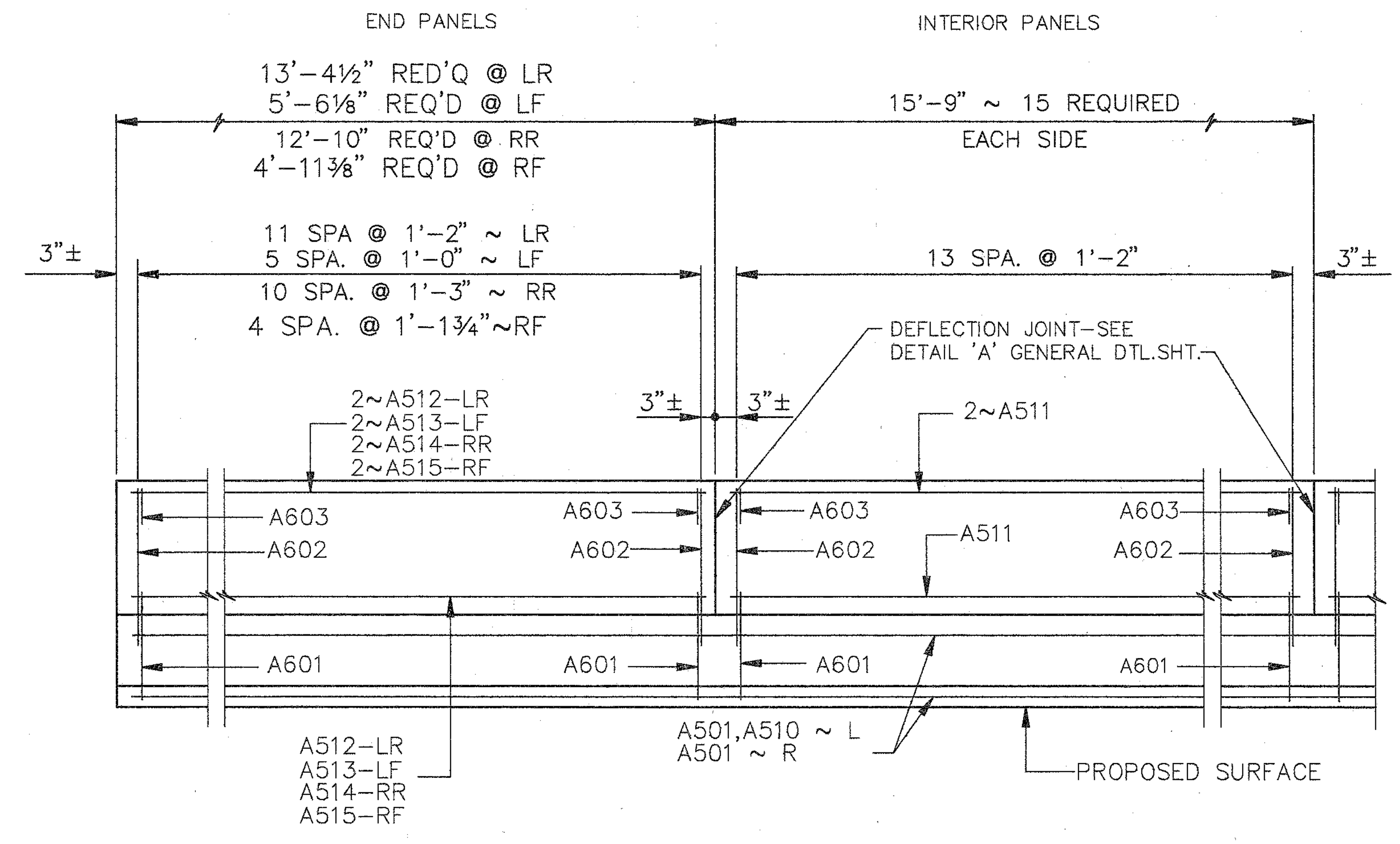
PLAN – FORWARD ABUTMENT MODIFICATION



PLAN – REAR ABUTMENT MODIFICATION



ELEVATION SUPERSTRUCTURE PARAPET (SPANS 1–4)



ELEVATION SUPERSTRUCTURE PARAPET (SPANS 5–7)

NOTES:

1. TYPE 'A" WATERPROOFING AT THE BRIDGE LIMIT END OF THE APPROACH SLAB (AS PER STD. DWG. AS-1-81) SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611 APPROACH SLAB.
2. LAP NO.5 BARS, IN PARAPETS, 2'-0".
3. FOR PARAPET SECTIONS SEE SHT. 7 / 11

NOTES:

L DENOTES LEFT SIDE
R DENOTES RIGHT SIDE
RF DENOTES RIGHT FORWARD
LF DENOTES LEFT FORWARD
RR DENOTES RIGHT REAR
LR DENOTES LEFT REAR
NF DENOTES NEAR FACE
FF DENOTES FAR FACE

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5 / 11

SUPER.–PARAPET–ABUT. DETAILS AND MODIFICATIONS

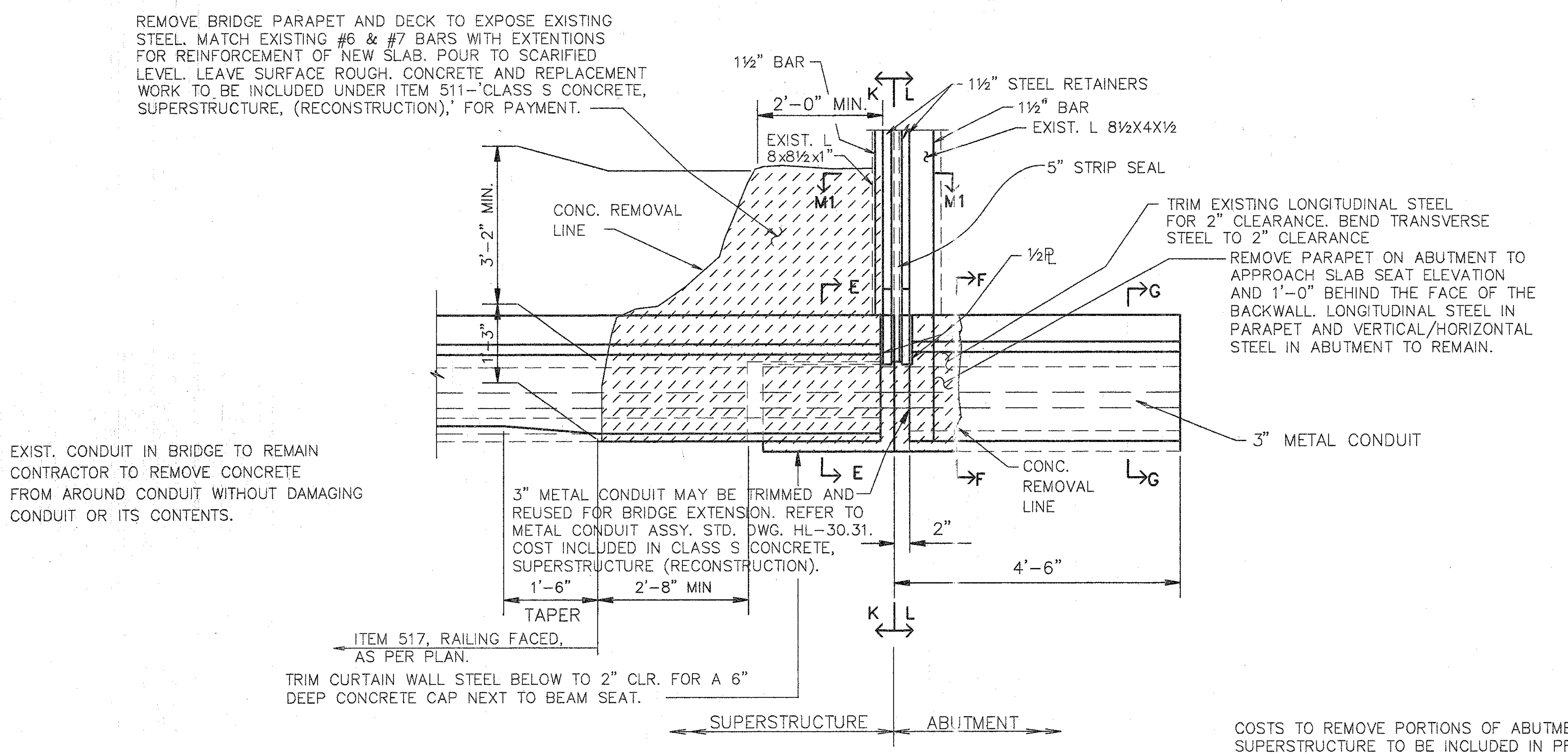
BRIDGE NO. HAM-71-0243L OVER N.B. READING ROAD

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	11/11/94	

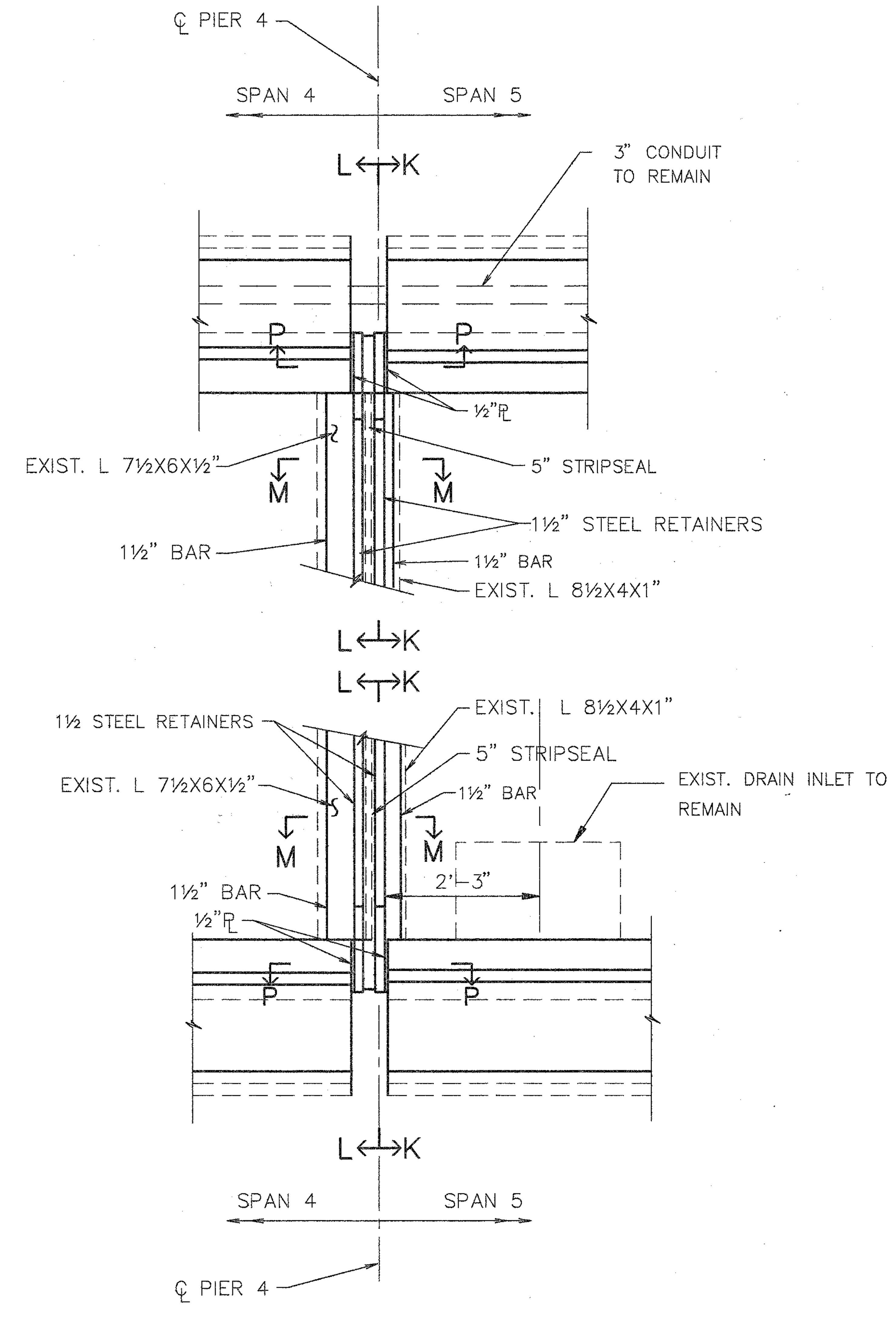
HAM-71-1.30/9.00 | OHIO | F.H.W.A. REGION 5 | 359 / 401

CALC. BY L.A.T.M. DATE 9-23-93
CHK'D BY D.E.M. DATE 10-4-93

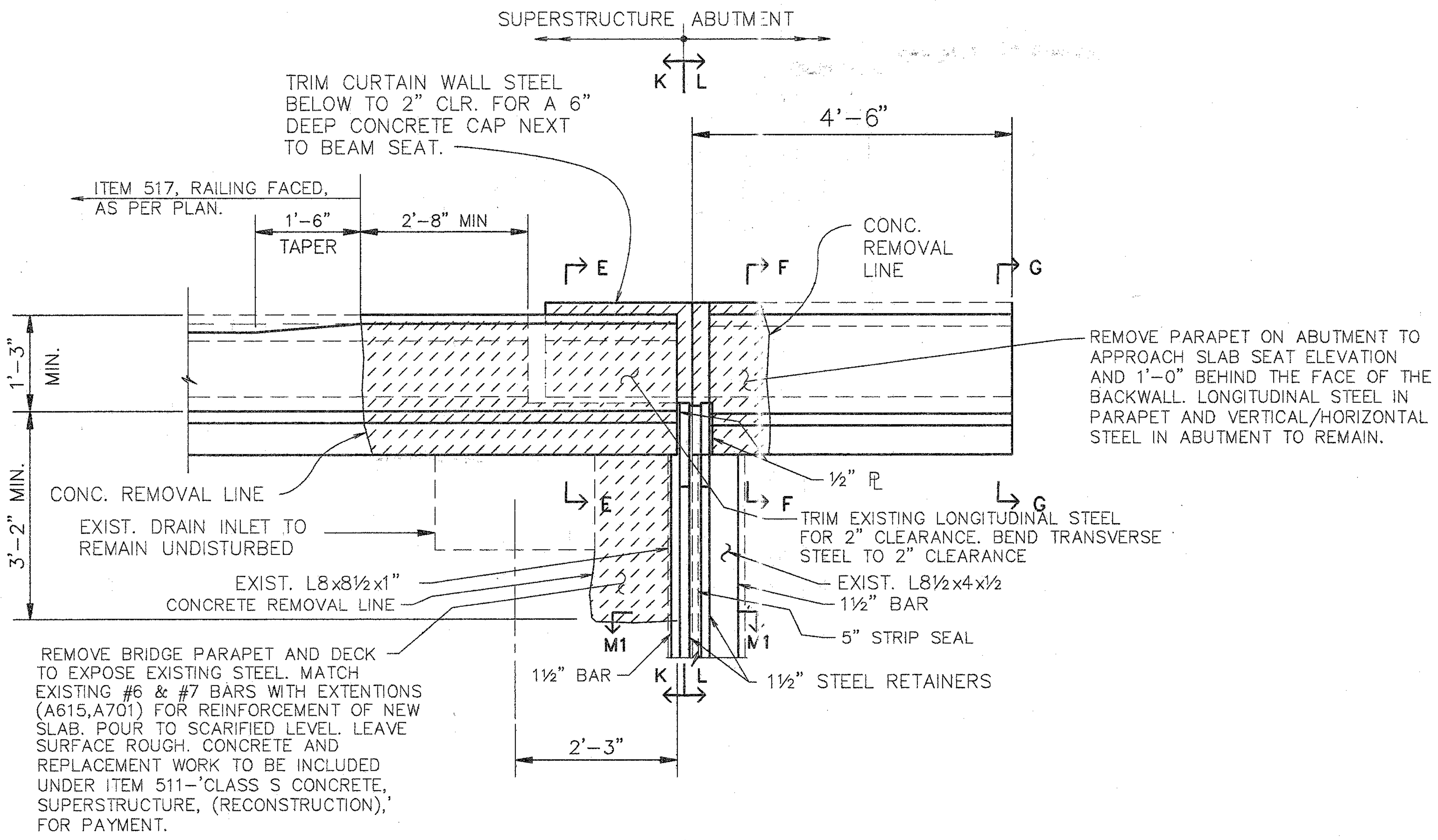


PART PLAN @ LEFT REAR

COSTS TO REMOVE PORTIONS OF ABUTMENT AND SUPERSTRUCTURE TO BE INCLUDED IN PRICE BID FOR ITEM 202-'PORTION OF STRUCTURE REMOVED.'



PART PLAN - INTERMEDIATE EXPANSION JOINT



PART PLAN @ RIGHT REAR

FOR DETAILS NOT SHOWN, SEE SHT. 7&8 /11

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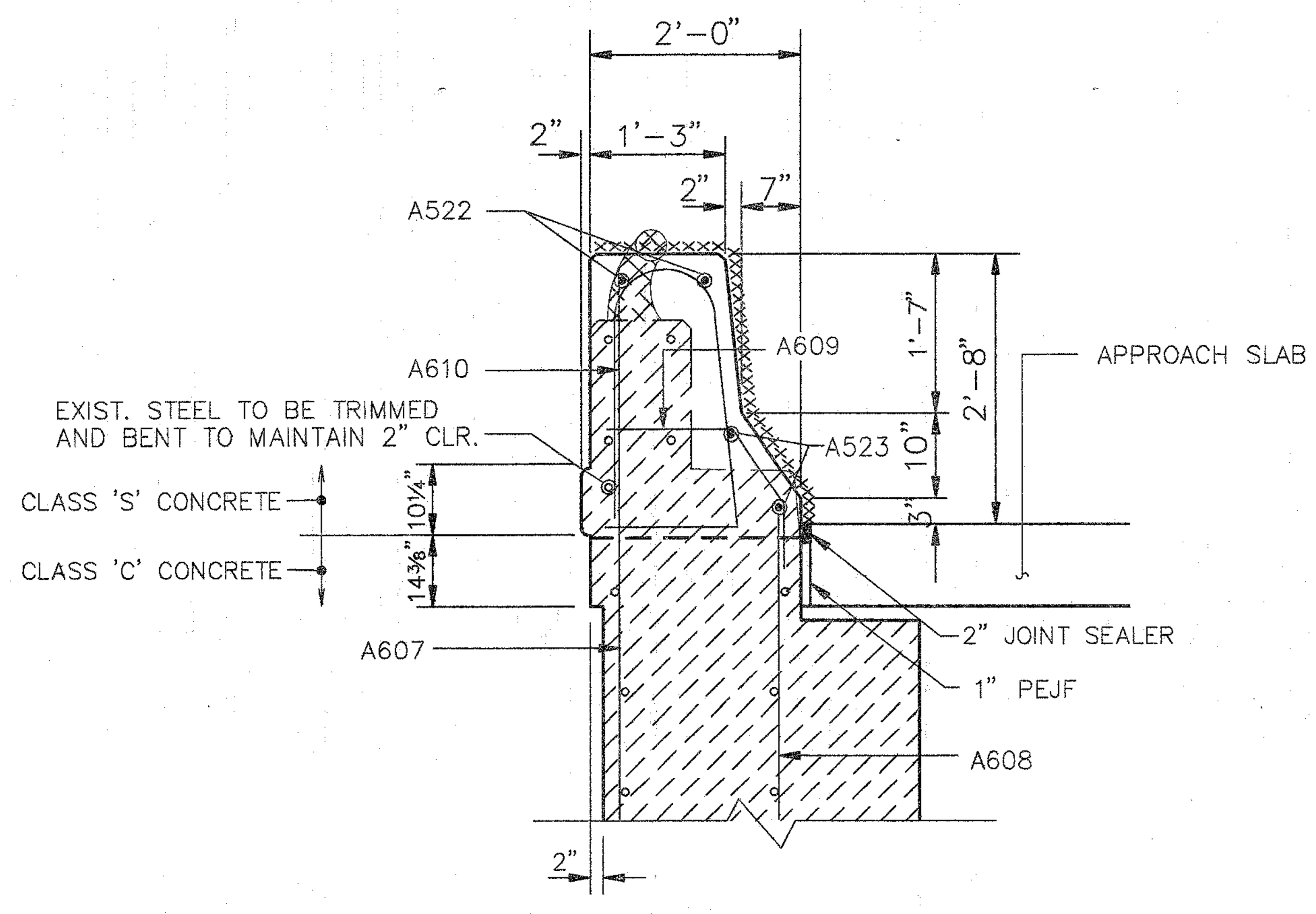
EXPANSION JOINT DETAILS

BRIDGE NO. HAM-71-0243L
OVER N.B. READING ROAD

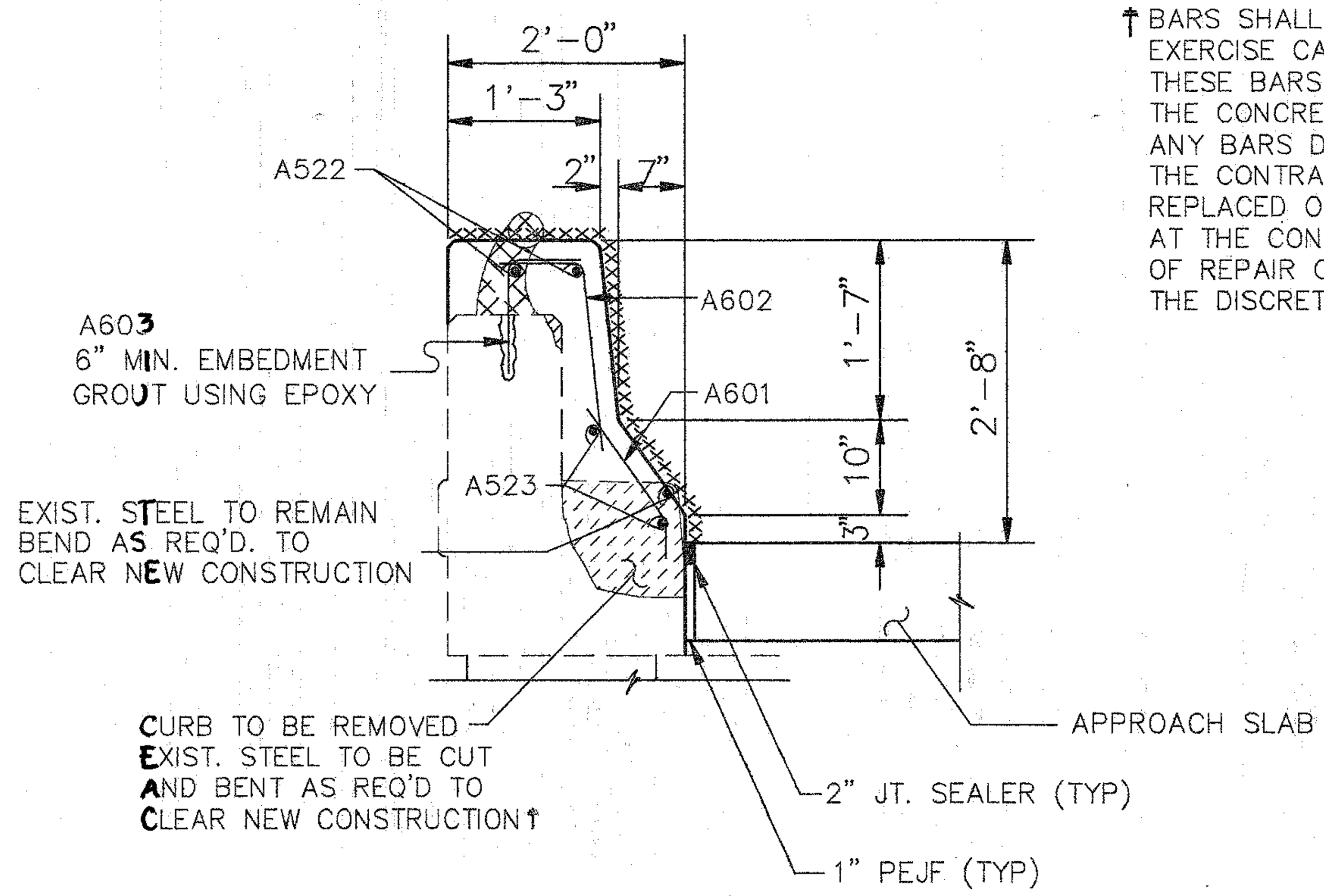
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	11/11/94	

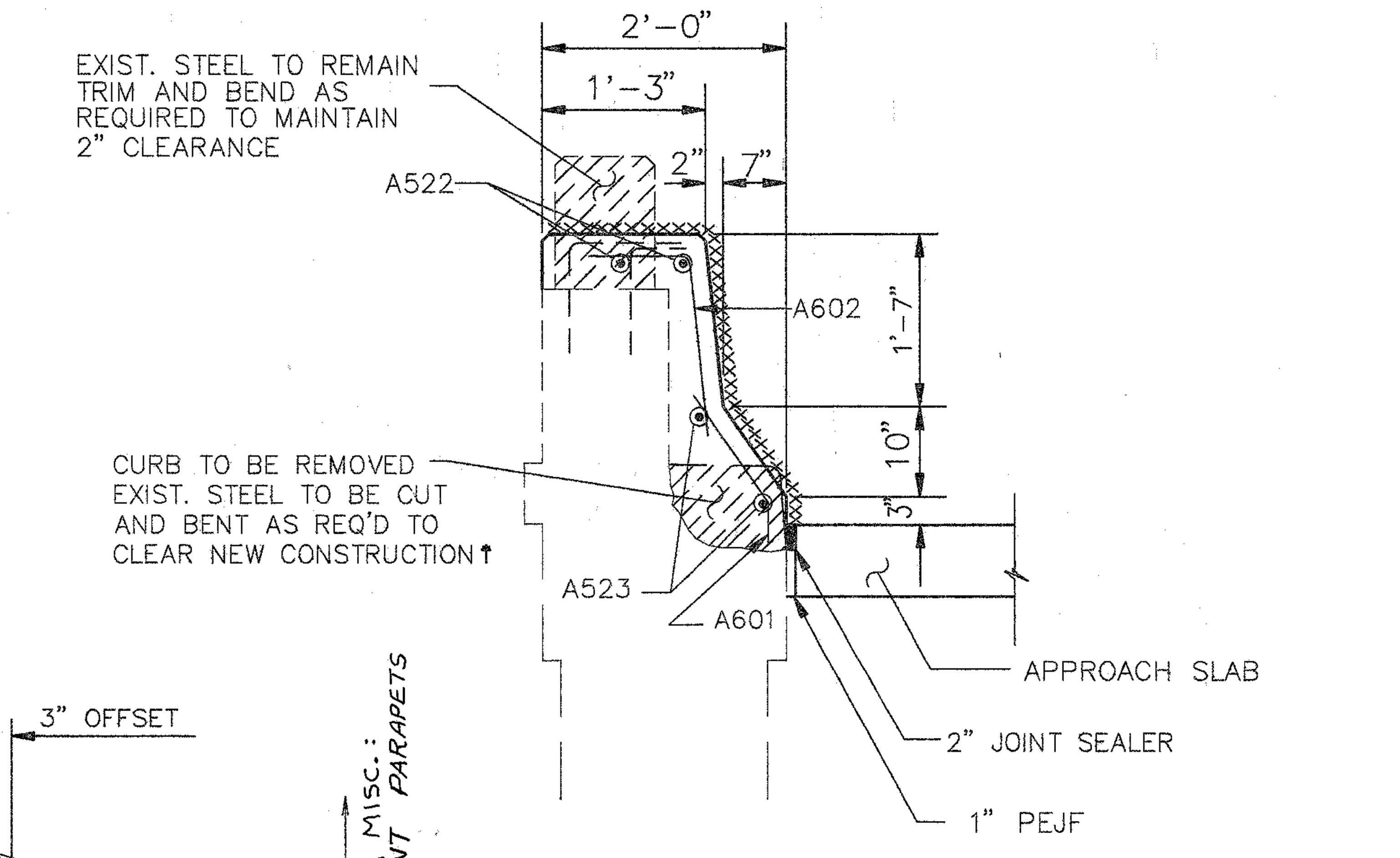
† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONCRETE REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.



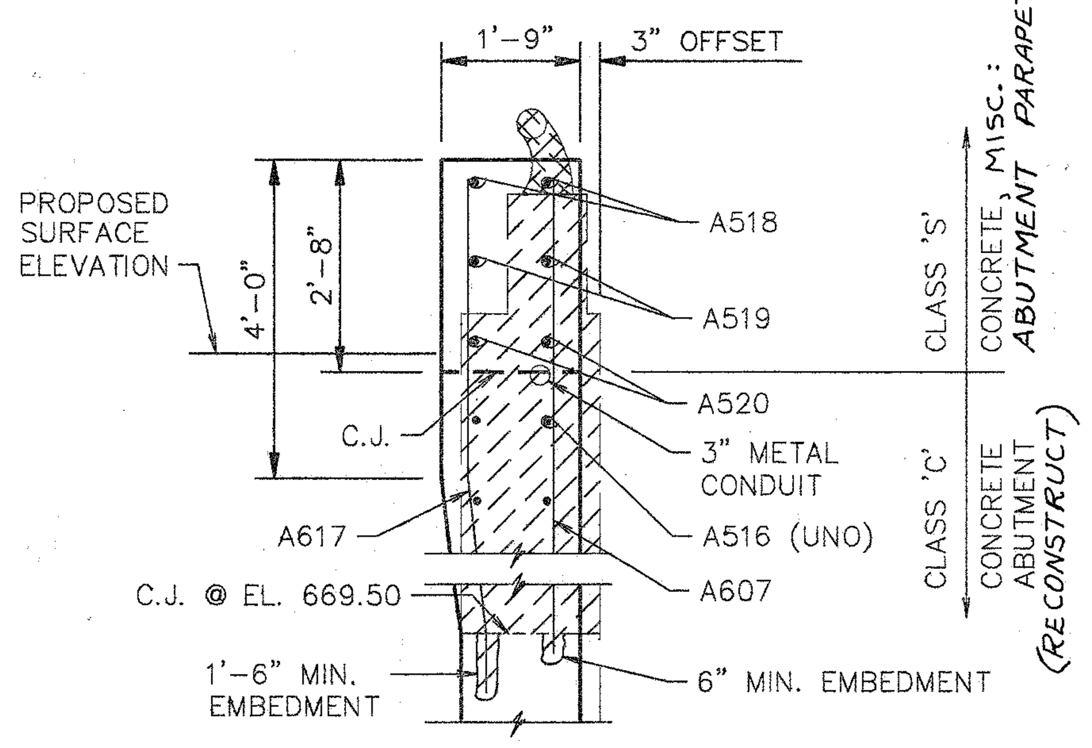
SECTION B-B



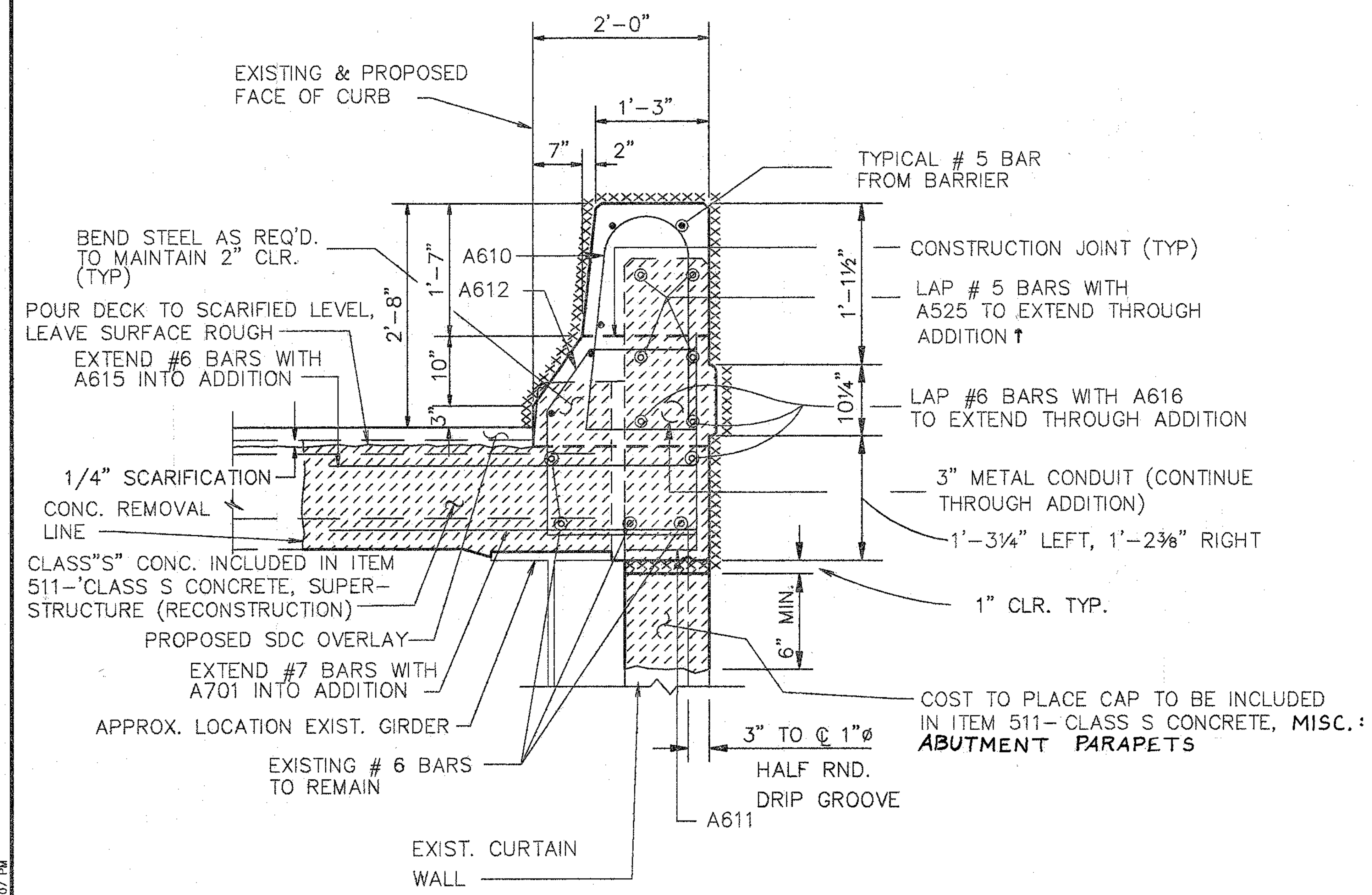
SECTION C-C



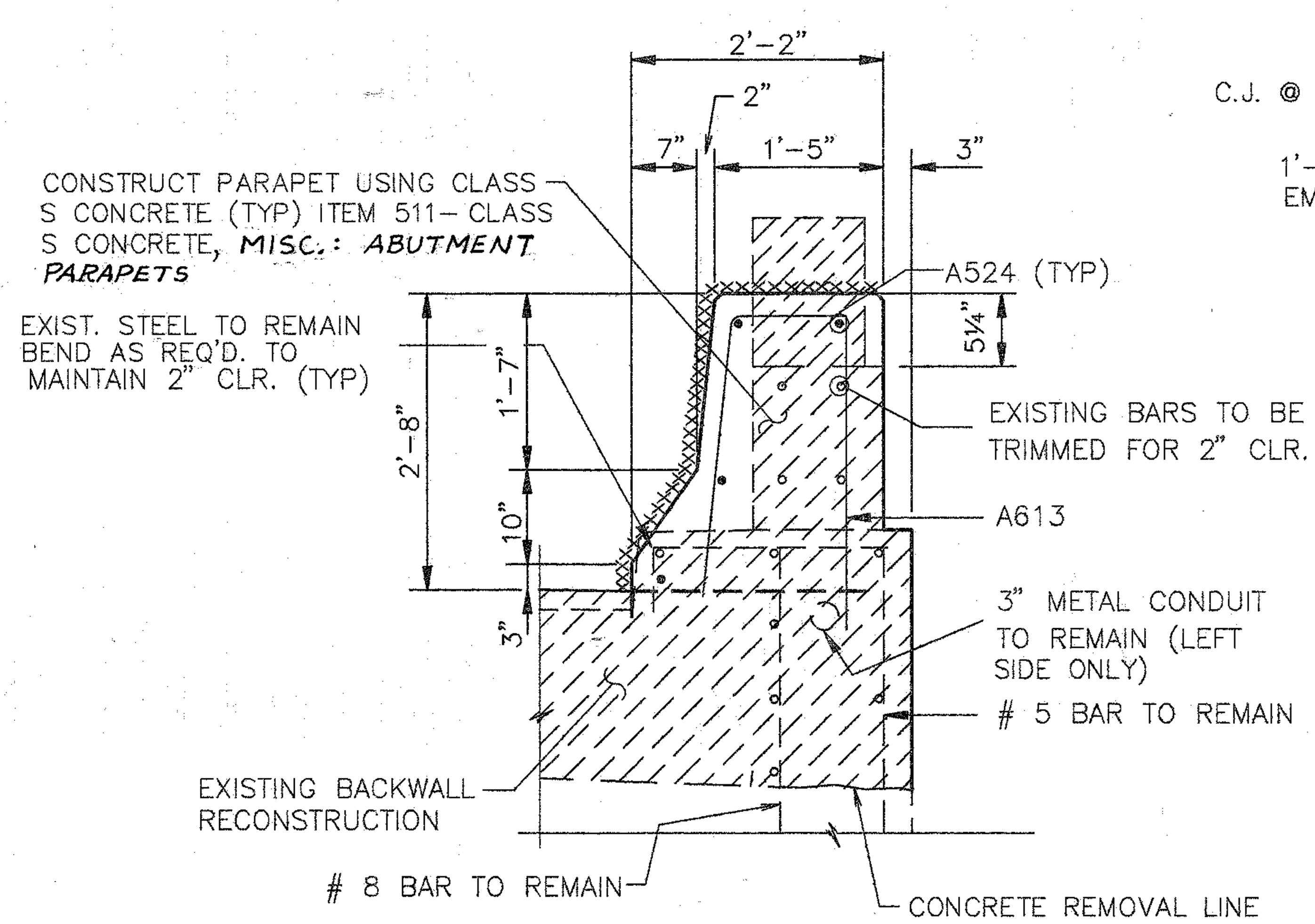
SECTION D-D



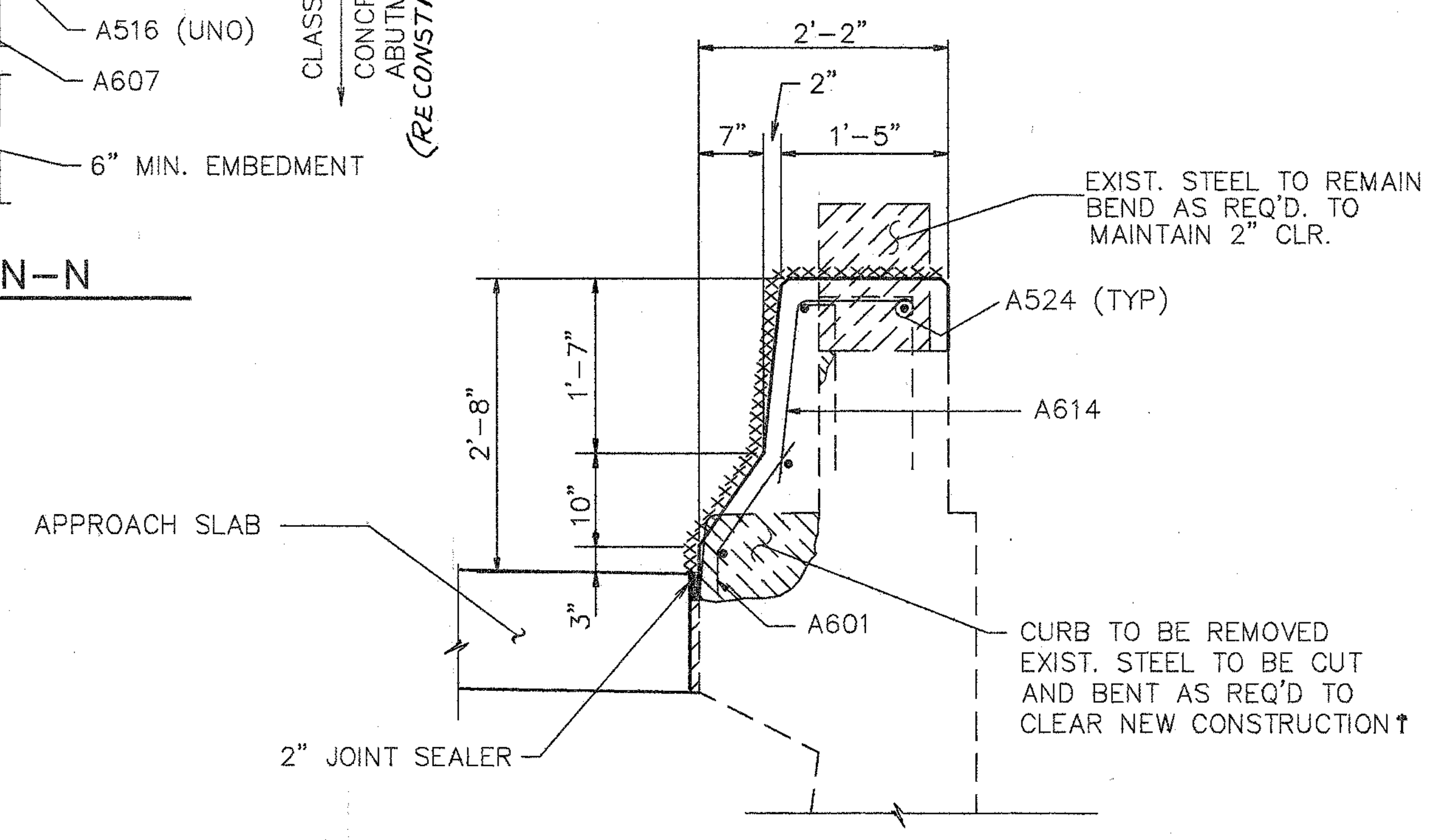
SECTION N-N



SECTION E-E



SECTION F-F



SECTION G-G

FOR ADDITIONAL SECTIONS NOT SHOWN HERE SEE SHT. 8 / 11

NOTE:
COST FOR WORK TO RECONSTRUCT BRIDGE DECK AND PARAPET SHALL BE INCLUDED IN ITEM 511-'CLASS S CONCRETE, SUPERSTRUCTURE, (RECONSTRUCTION). REINFORCING STEEL IS INCLUDED IN ITEM 509-EPOXY COATED REINFORCING STEEL, GRADE 60, FOR PAYMENT.

NOTES:
1. TYPE 'A" WATERPROOFING AT THE BRIDGE LIMIT END OF THE APPROACH SLAB (AS PER STD. DWG. AS-1-81) SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611 APPROACH SLAB.

//////	EXISTING CURB AND PARAPET TO BE REMOVED UNDER ITEM 202-PORTIONS OF STRUCTURES REMOVED.
XXXX	EXISTING RAILING & POSTS TO BE REMOVED & STACKED NEATLY ALONG THE RIGHT OF WAY FOR DISPOSAL BY THE CONTRACTOR. ALL WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202 PORTIONS OF STRUCTURES REMOVED.
xxxxxx	SURFACES TO BE SEALED UNDER ITEM SPECIAL-SEALING OF CONCRETE SURFACES.
∘	EXISTING REINFORCING STEEL

WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660

7/11

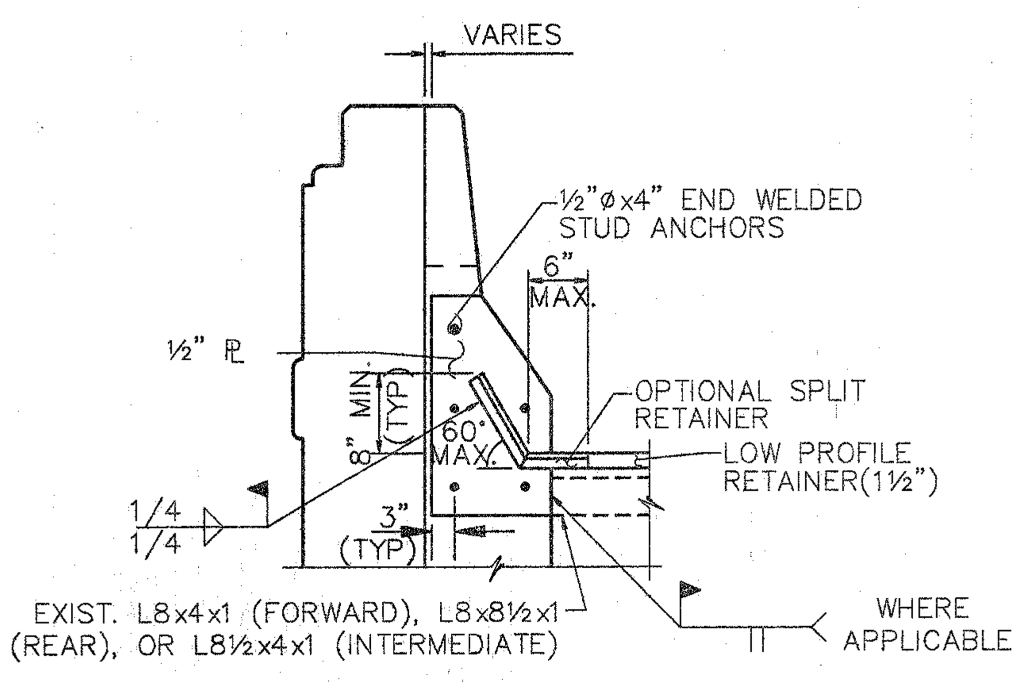
PARAPET SECTIONS AND DETAILS

BRIDGE NO. HAM-71-0243L
OVER N.B. READING ROAD

HAMILTON COUNTY

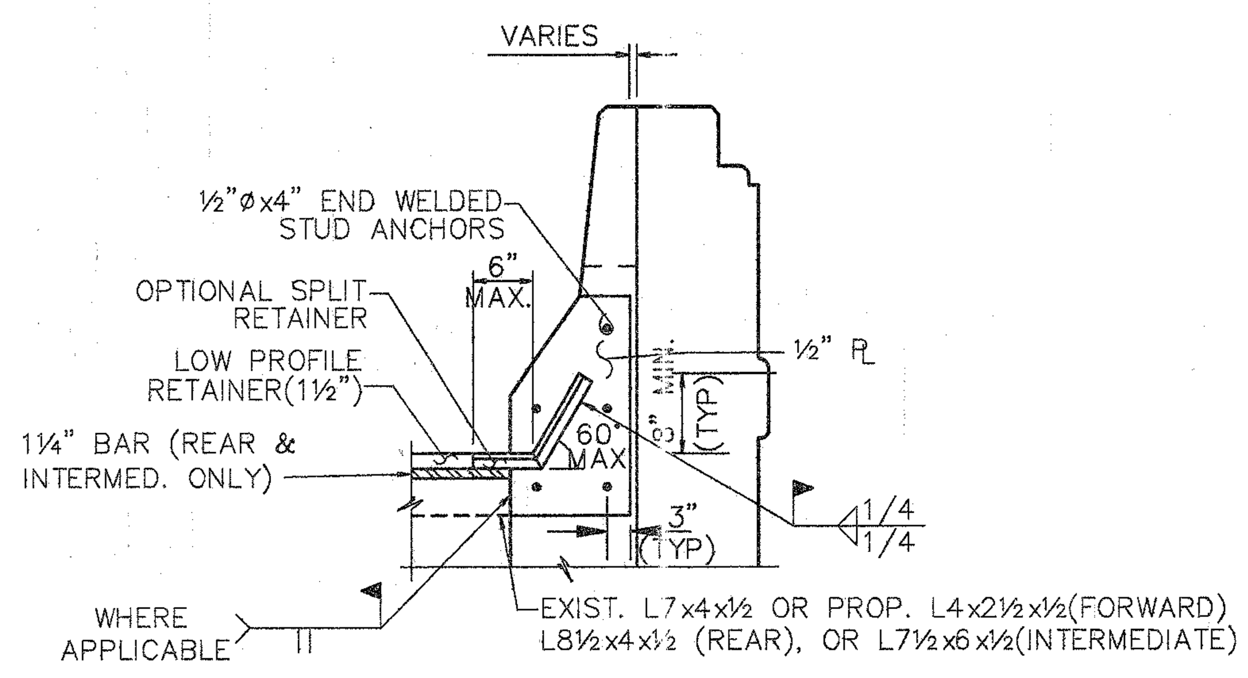
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.11/11/94	

Last Plot: MAY 15, 1991 @ 5:38 PM Last Revision By: DAGI MAY 17, 1994 @ 3:07 PM



SECTION K-K

LF & RR SHOWN, LR & RF OPPOSITE HAND

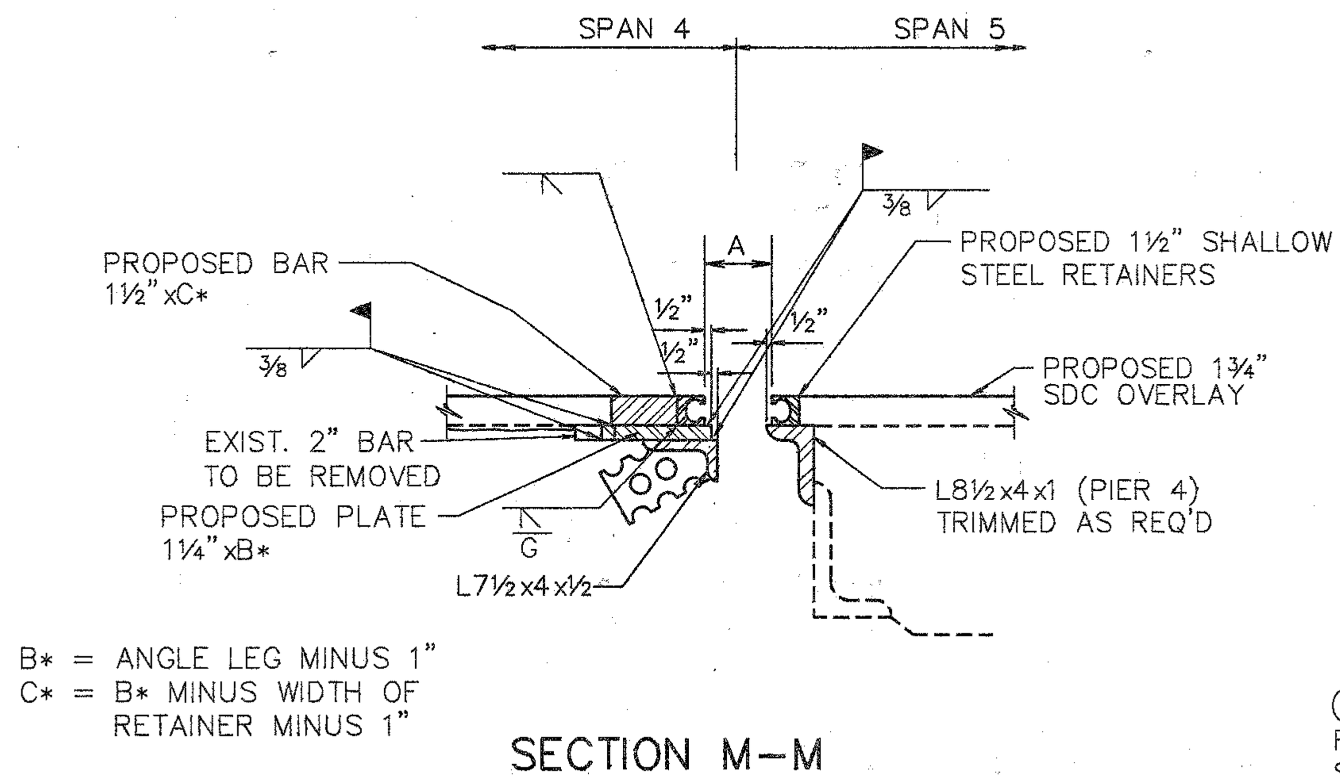


SECTION L-L

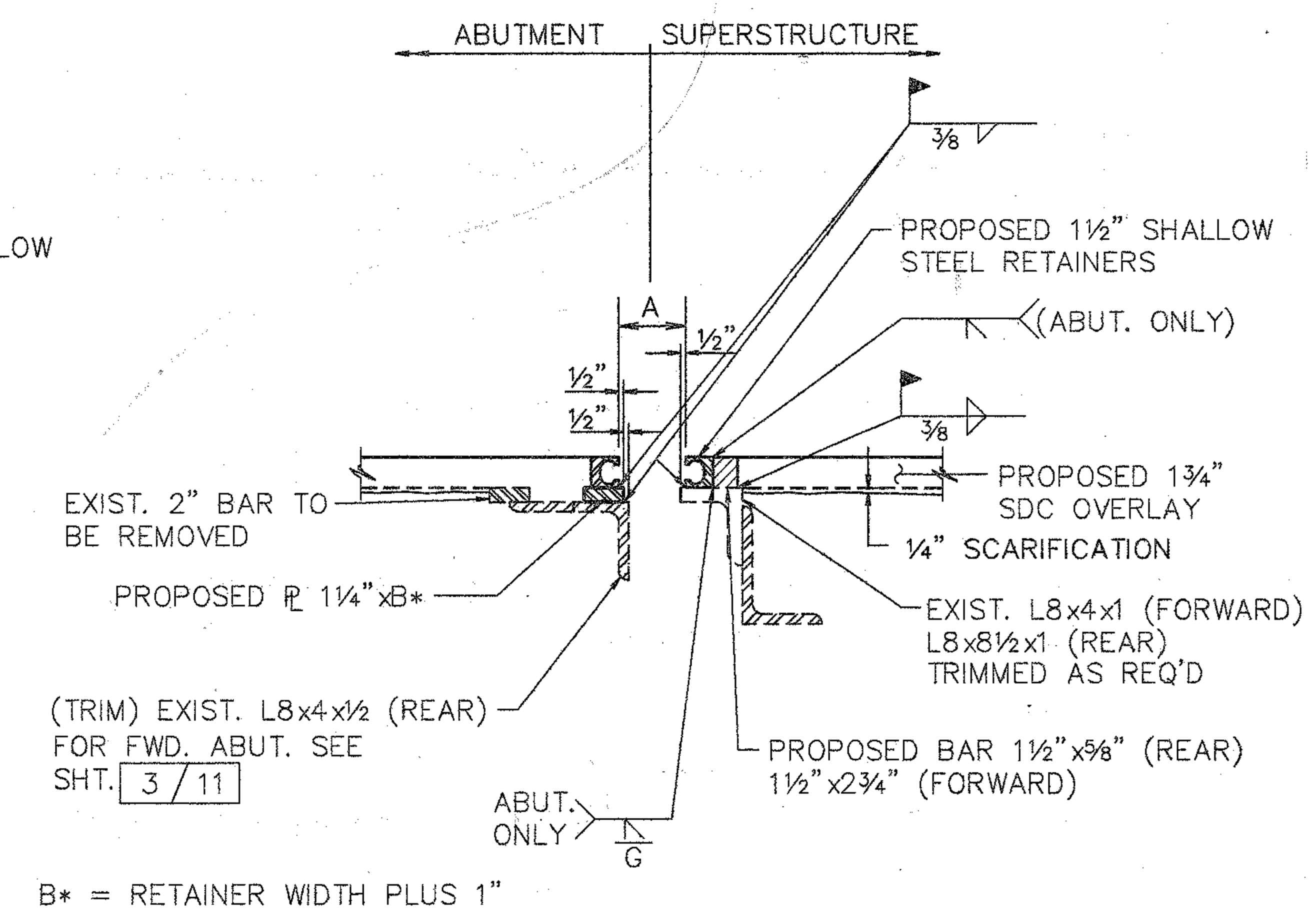
LF & RR SHOWN, LR & RF OPPOSITE HAND

NOTE:

1. EXPANSION JT. DETAILS TO BE WORKED WITH STD. DWG. EXJ-4-87 SHTS. 1 thru 5.
2. WHEN PLATE IS RECESSED INTO ABUTMENT, CONCRETE BELOW PLATE SHALL BE SLOPED FROM BOTTOM OF THE PLATE TO THE END OF THE ABUTMENT TO DETER THE ACCUMULATION OF DEBIS.



SECTION M-M

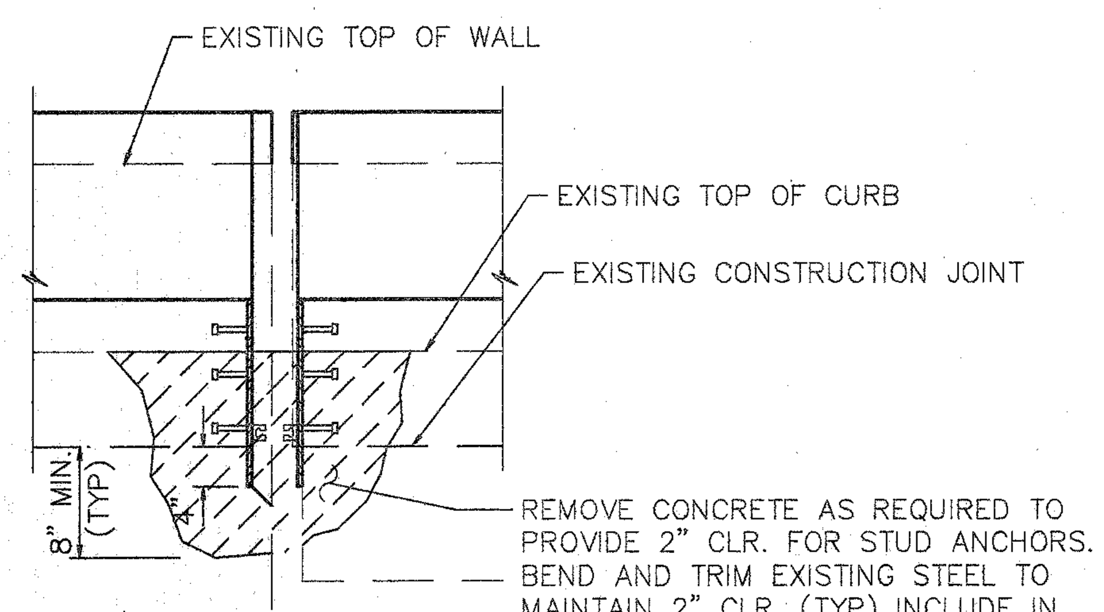


SECTION M1-M1

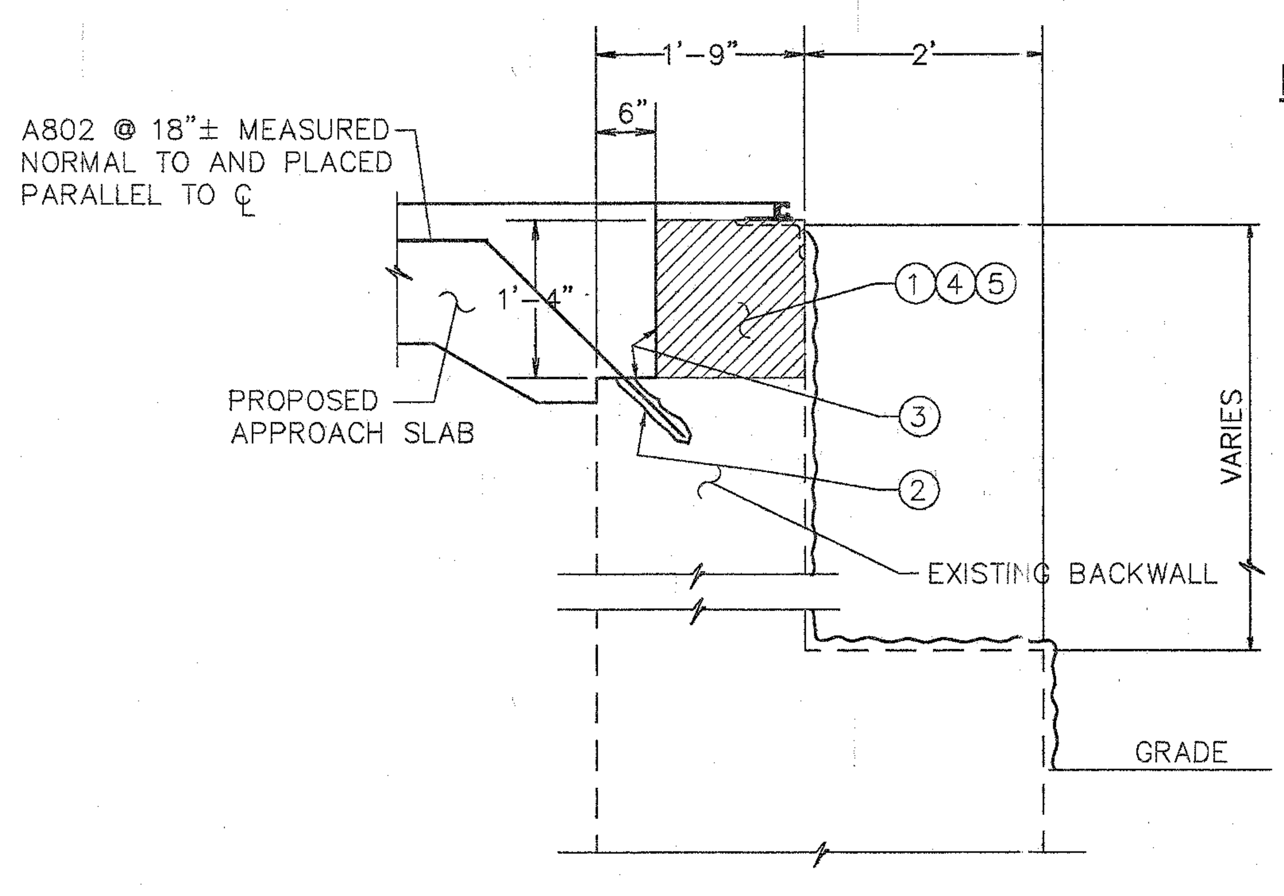
NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO MODIFYING EXPANSION JOINT.
2. THE PRICE BID FOR ITEM 516-'STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS, SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY OTHER INCIDENTIAL ITEMS, AS DETAILED. (REMOVAL OF CURB OR PARAPET AS SHOWN SHALL BE INCLUDED UNDER ITEM 202- 'PORTIONS OF STRUCTURE REMOVED').
3. FOR DETAILS NOT SHOWN REFER TO DWG. EXJ-4-87 SHTS. 3 AND 4.
4. STRIP SEAL TO BE INSTALLED IN ONE CONTINUOUS PIECE (NO OPEN JOINTS).
5. PROVIDE TEMPORARY SUPPORT FOR ABUTMENT END DAM DURING CONSTRUCTION. REMOVE TEMPORARY SUPPORT AS SOON AS CONCRETE HAS SET, PREFERABLY WITHIN TWO HOURS AFTER PLACING TO AVOID DAMAGE DUE TO EXPANSION AND CONTRACTION OF SUPERSTRUCTURE.

TEMPERATURE	DIM. 'A'		
	REAR	PIER 4	FORWARD
40° F	3⅝"	3½"	3"
50° F	3½"	3⅛"	2⅞"
60° F	3¼"	2⅞"	2¾"
70° F	3"	2⅝"	2⅝"
80° F	2⅞"	2⅜"	2½"
90° F	2⅝"	2⅛"	2⅜"



SECTION P-P



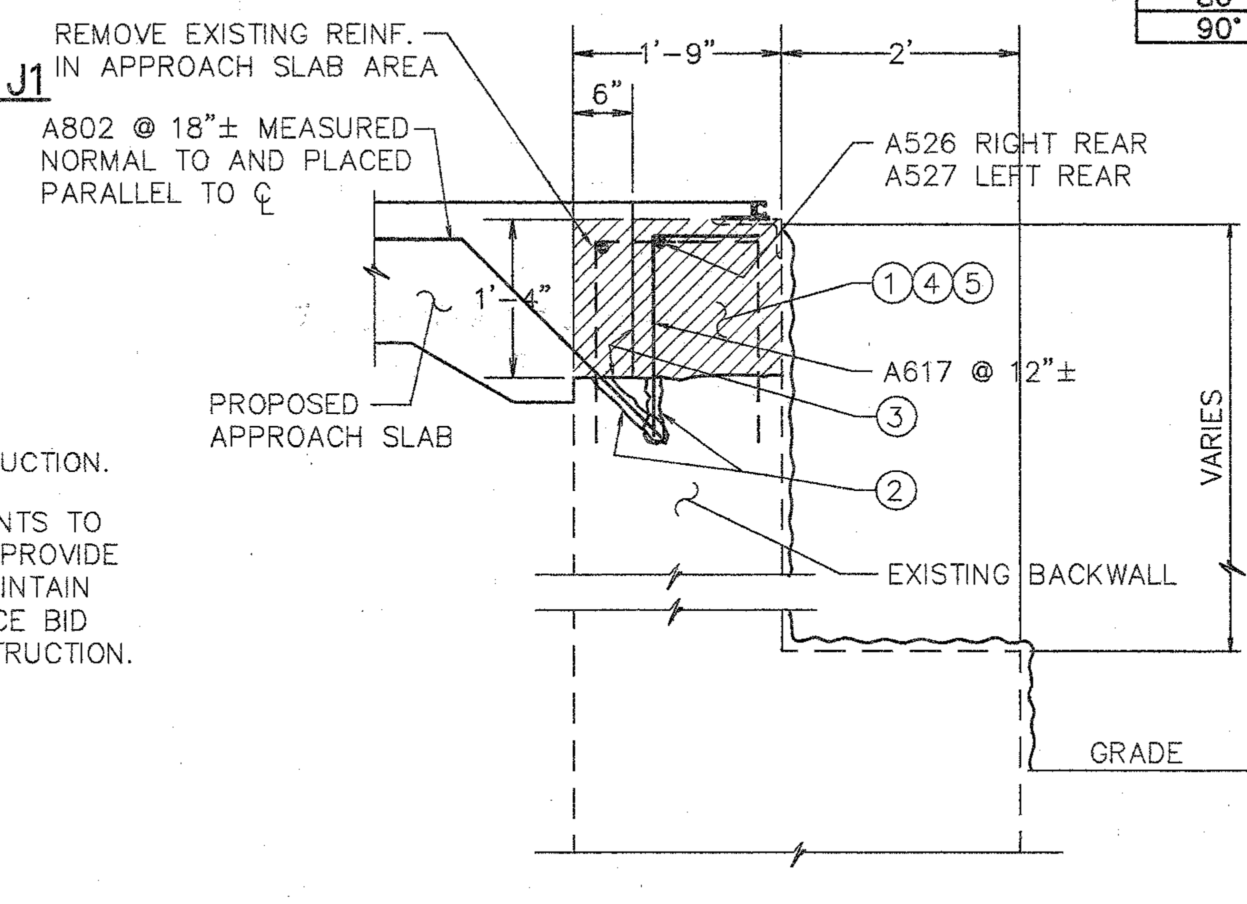
SECTION J-J

NOTES FOR SECTION J-J & J1-J1

1. EXISTING REINFORCING STEEL TO REMAIN ~ REINFORCING STEEL DAMAGED TO BE REPLACED AT CONTRACTORS EXPENSE.
2. 1' MIN. EMBEDMENT (SEE DOWEL HOLE GENERAL NOTE) ITEM 510.
3. TYPE 'A' WATERPROOFING (PAYMENT INCLUDED IN THE PRICE BID FOR APPROACH SLAB).
4. CLASS 'C' CONCRETE, ABUTMENT RECONSTRUCTION.
5. PROVIDE CONTRACTION AND EXPANSION JOINTS TO MATCH THOSE IN EXISTING BACKWALL AND PROVIDE CONSTRUCTION JOINTS AS REQUIRED TO MAINTAIN TRAFFIC. PAYMENT TO BE INCLUDED IN PRICE BID FOR ITEM 511 CLASS C CONCRETE RECONSTRUCTION.

EXISTING CONCRETE TO BE REMOVED INCLUDE IN ITEM 202 FOR PAYMENT.

SURFACE TO BE SEALED UNDER ITEM SPECIAL- 'SEALING OF CONCRETE SURFACE, EPOXY'.



SECTION J1-J1

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MISCELLANEOUS DETAILS

BRIDGE NO. HAM-71-0243L
OVER N.B. READING ROAD

HAMILTON COUNTY

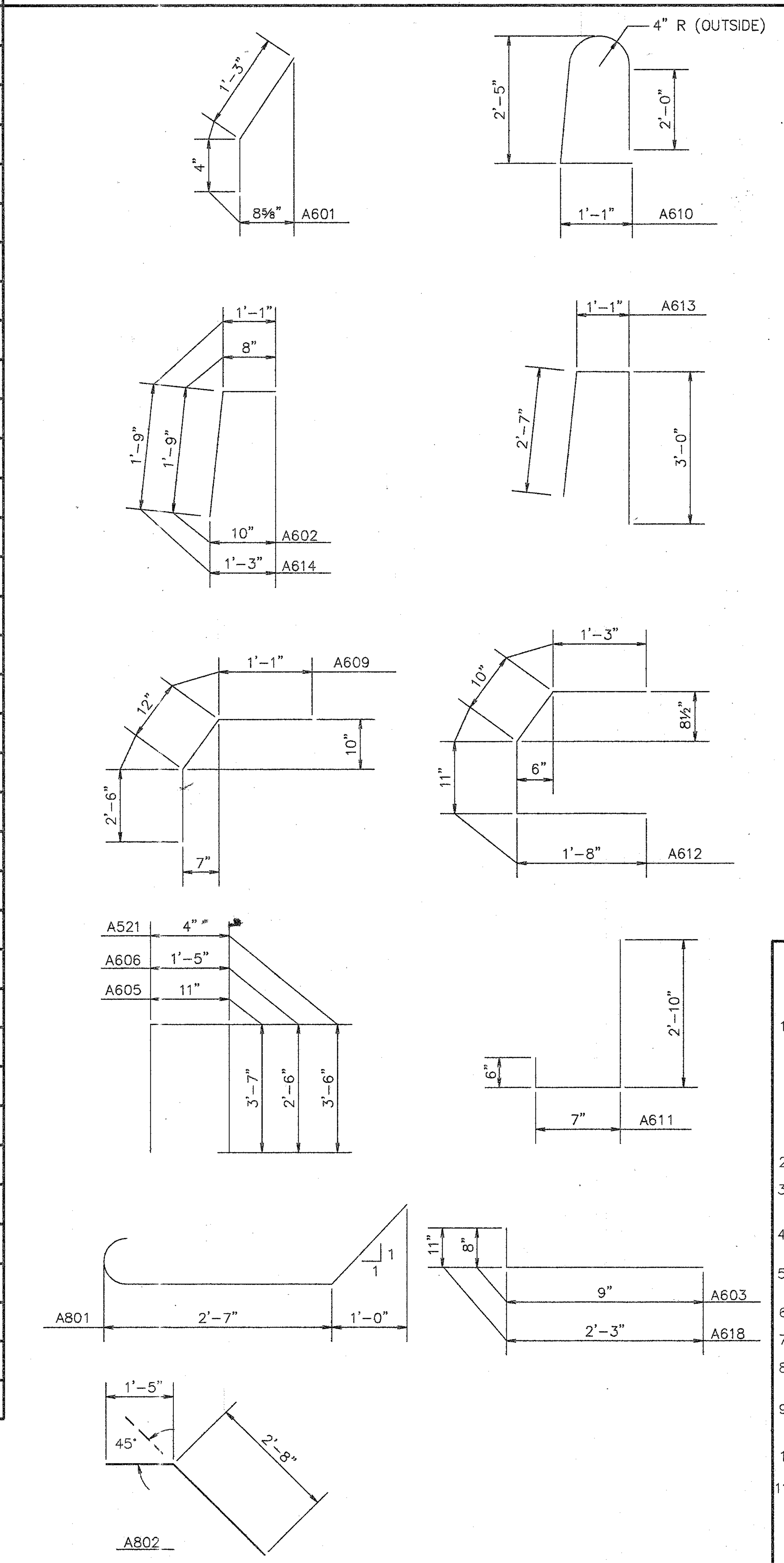
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 11/11/94	

REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT	MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A501	STR.	104	30'-0"	3254	A601	BNT.	1356	1'-6"	3055
A502	STR.	2	21'-6"	45	A602	BNT.	1348	2'-5"	4900
A503	STR.	180	15'-7"	2926	A603	BNT.	1337	1'-3"	2510
A504	STR.	3	15'-0"	47	A604	STR.	100	7'-0"	1051
A505	STR.	2	12'-11"	27	A605	BNT.	50	7'-9"	582
A506	STR.	1	12'-8"	13	A606	BNT.	50	6'-1"	457
A507	STR.	3	14'-9"	46	A607	STR.	12	10'-0"	180
A508	STR.	2	4'-9"	11	A608	STR.	6	8'-6"	77
A509	STR.	1	4'-6"	5	A609	BNT.	6	4'-5"	40
A510	STR.	2	31'-0"	65	A610	BNT.	14	6'-0"	126
A511	STR.	90	15'-5"	1447	A611	BNT.	8	3'-7"	43
A512	STR.	3	13'-0"	41	A612	BNT.	8	4'-4"	52
A513	STR.	3	5'-2"	16	A613	BNT.	2	6'-4"	19
A514	STR.	3	12'-6"	39	A614	BNT.	8	2'-8"	32
A515	STR.	3	4'-7"	14	A615	STR.	4	3'-10"	23
A516	STR.	11	29'-8"	340	A616	STR.	10	6'-2"	93
A517	STR.	11	27'-7"	316	A617	BNT.‡	6	11'-0"	99
A518	STR.	2	5'-0"	10	A618	BNT.	16	3'-0"	72
A519	STR.	2	5'-2"	11					
A520	STR.	2	5'-9"	12					
A521	BNT.	3	7'-0"	22					
A522	STR.	2	16'-5"	34					
A523	STR.	2	16'-3"	34					
A524	STR.	8	3'-10"	32					
A525	STR.	8	4'-0"	33	A701	STR.	4	3'-10"	31
A526	STR.	1	8'-0"	8					
A527	STR.	1	12'-0"	13					
					A801	BNT.	33	4'-10"	426
					A802	BNT.	34	4'-0"	363
					REPLACEMENT STEEL				300
								TOTAL	23,392

‡ =BEND IN FIELD AS REQ'D.

BENT BAR DETAILS



ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	L.S.	PORTIONS OF STRUCTURE REMOVED
513	15501	100	LBS.	STRUCTURAL STEEL (MISC. AND CASTINGS), AS PER PLAN
503	21100	23	C.Y.	UNCLASSIFIED EXCAVATION
509	15824	23,392	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
510	12201	174	LF.	DOWEL HOLES AS PER PLAN.
511	34450	4	C.Y.	CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
511	34400	4	C.Y.	CLASS S CONCRETE, SUPERSTRUCTURE (RECONSTRUCTION)
511	45700	31	C.Y.	CLASS C CONCRETE, ABUTMENT (RECONSTRUCTION)
516	14600	75	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2"x4" SEALER, AS PER PLAN
SPECIAL	51267500	2,190	S.Y.	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	188	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
514	27704	LUMP	L.S.	FIELD PAINTING, MISC: EXISTING STEEL, EEU *
516	14600	175	L.F.	SEAL JOINT BETWEEN ABUTMENT AND CONCRETE SLOPE PROTECTION
516	11210	155	L.F.	STRUCTURAL EXP. JT. INCLUDING ELASTOMERIC STRIP SEALS
516	13600	17	S.F.	1" PREFORMED EXPANSION JOINT FILLER
516	30500	15	L.F.	PVC WATERSTOP
516	45304	24	EACH	REFURBISH BEARING DEVICE
517	76201	1,514	L.F.	RAILING FACED, AS PER PLAN (32" HIGH)
516	45307	6	EACH	REFURBISH BEARING DEVICE, AS PER PLAN
518	21200	23	C.Y.	POROUS BACKFILL, WITH FILTER FABRIC
518	41100	70	L.F.	6" PERFORATED HELICAL CORRUGATED STEEL PIPE, 707.01
518	63300	LUMP SUM	L.S.	STRUCTURE DRAINAGE, MISC: MODIFY DRAINAGE PIPING
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
845	40210	4,219	S.Y.	LATEX MODIFIED CONCRETE MISC. OVERLAY (1¾" THICK) ON EXISTING DECK
845	11000	41	C.Y.	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)
845	30000	1	C.Y.	FULL DEPTH REPAIR
SPECIAL	53000400	56	EACH	STRUCTURE MISC: LATERAL BRACING GUSSET PLATE RETROFIT(INTERMEDIATE).
601	21100	6	S.Y.	REPAIR CONCRETE SLOPE PROTECTION

* SEE PROPOSAL NOTE

FOR LIGHTING SUMMARY, SEE LIGHTING PLANS

PROPOSED WORK

1. MODIFY PARAPETS ON THE SUPERSTRUCTURE AND ABUTMENTS. (REMOVE PORTION OF ABUTMENT PARAPETS AND BRIDGE DECK TO ALLOW APPROPRIATE CLEARANCES FOR THE STRIP SEAL INSTALLATION. INSTALL PLATES FOR THE STRIP SEAL EXPANSION JOINT WHEN POURING THE SLAB EXTENSIONS. CAP ABUTMENT WALL AT REMOVAL LOCATION. INSTALL METAL CONDUIT EXPANSION ASSEMBLY HL-30.31)
2. REPLACE NORTH BACKWALL AND RECONSTRUCT SOUTH BACKWALL ABOVE APPROACH SLAB SEAT.
3. SCARIFY EXISTING DECK ¼" AND REMOVE DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER.
4. REFURBISH BEARINGS.
5. PLACE 1¾" THICK LATEX MODIFIED CONCRETE ON DECK.
6. SEAL JOINTS AS NOTED.
7. SEAL EXPANSION JOINTS WITH STRIP SEAL
8. REPLACE GUARDRAIL AS SHOWN ON ROADWAY PLANS
9. RETROFIT LATERAL BRACING. FOR DETAILS SEE SHEETS 401A/401 THRU 401F/401
10. REFURBISH DRAINAGE PIPING.
11. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION AND ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTENANCE OF TRAFFIC PLANS. MAINTAINANCE OF TRAFFIC PLAN REQUIRES CONSTRUCTION PHASING LIMITS AT LANE CENTERLINES. DUE TO THESE LIMITS, OVERLAY MAY REQUIRE SPECIAL ATTENTION.
12. OTHER WORK AS DESCRIBED IN THESE PLANS.

WOOLPERT CONSULTANTS
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QUANTITIES AND GENERAL NOTES

BRIDGE NO. HAM-71-0243L
OVER N.B. READING ROAD

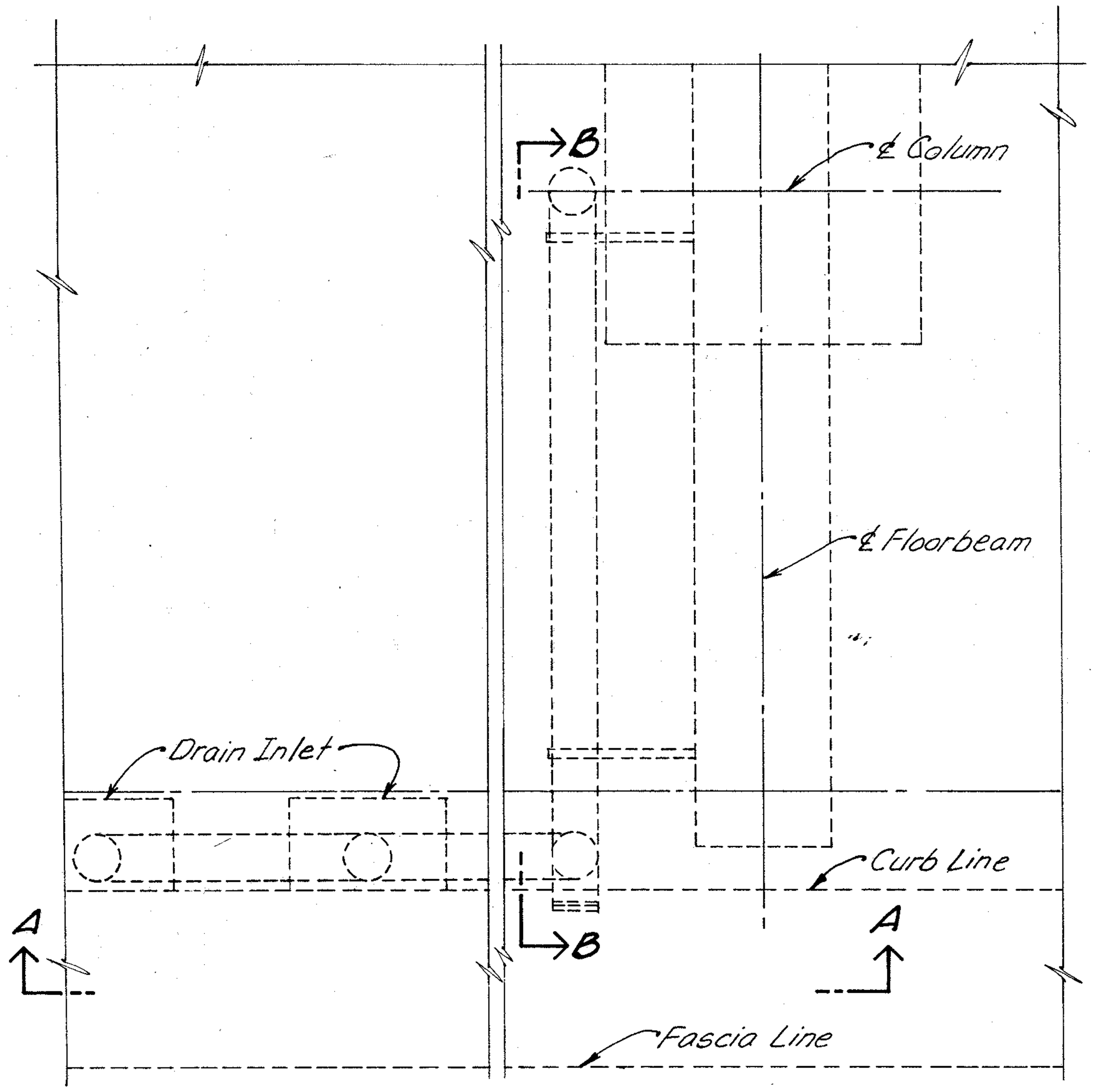
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 11/11/94	

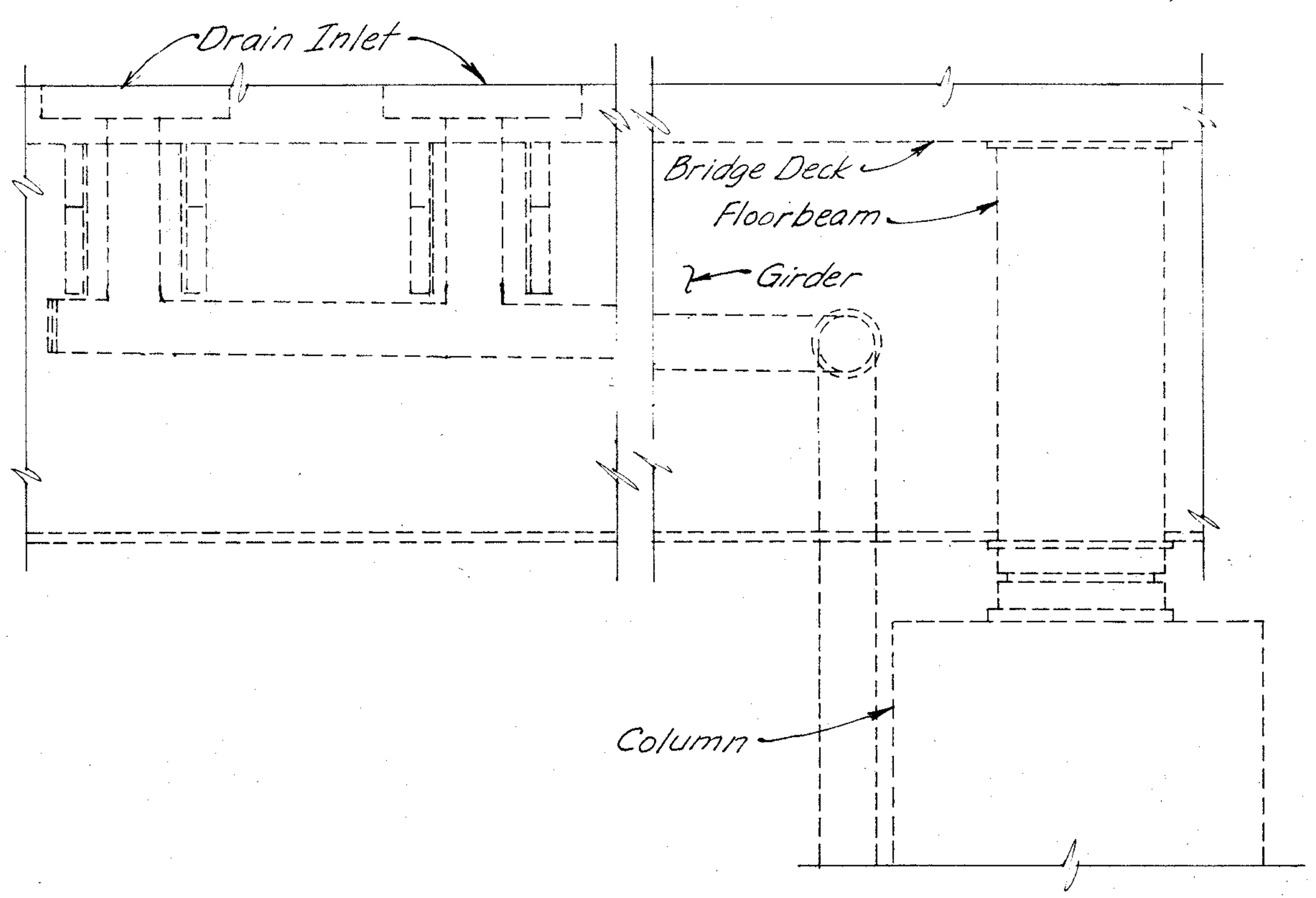
F.H.W.A. REGION	STATE	PROJECT		
5	OHIO			

363/401

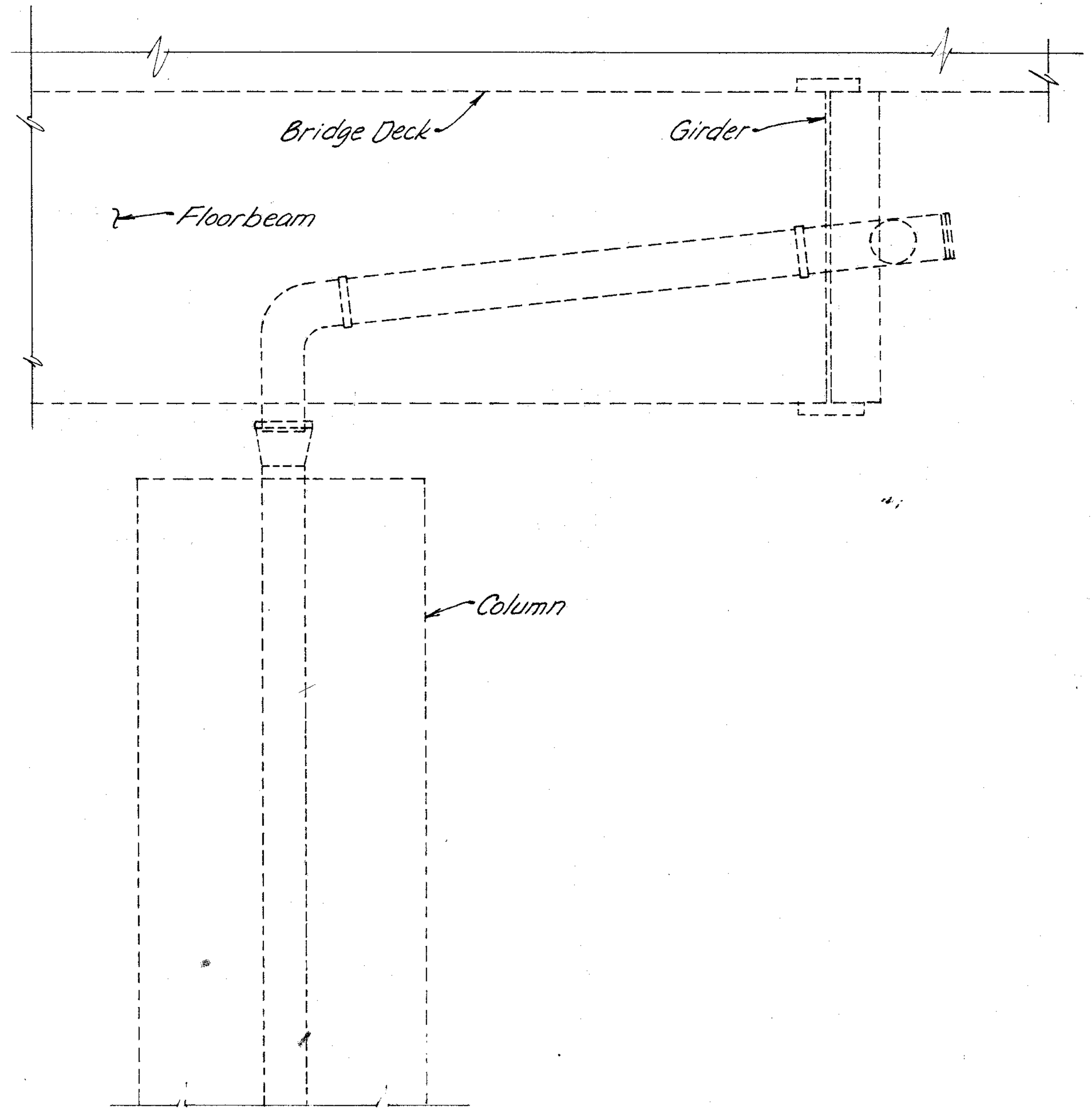
HAM-71-1.30/9.00



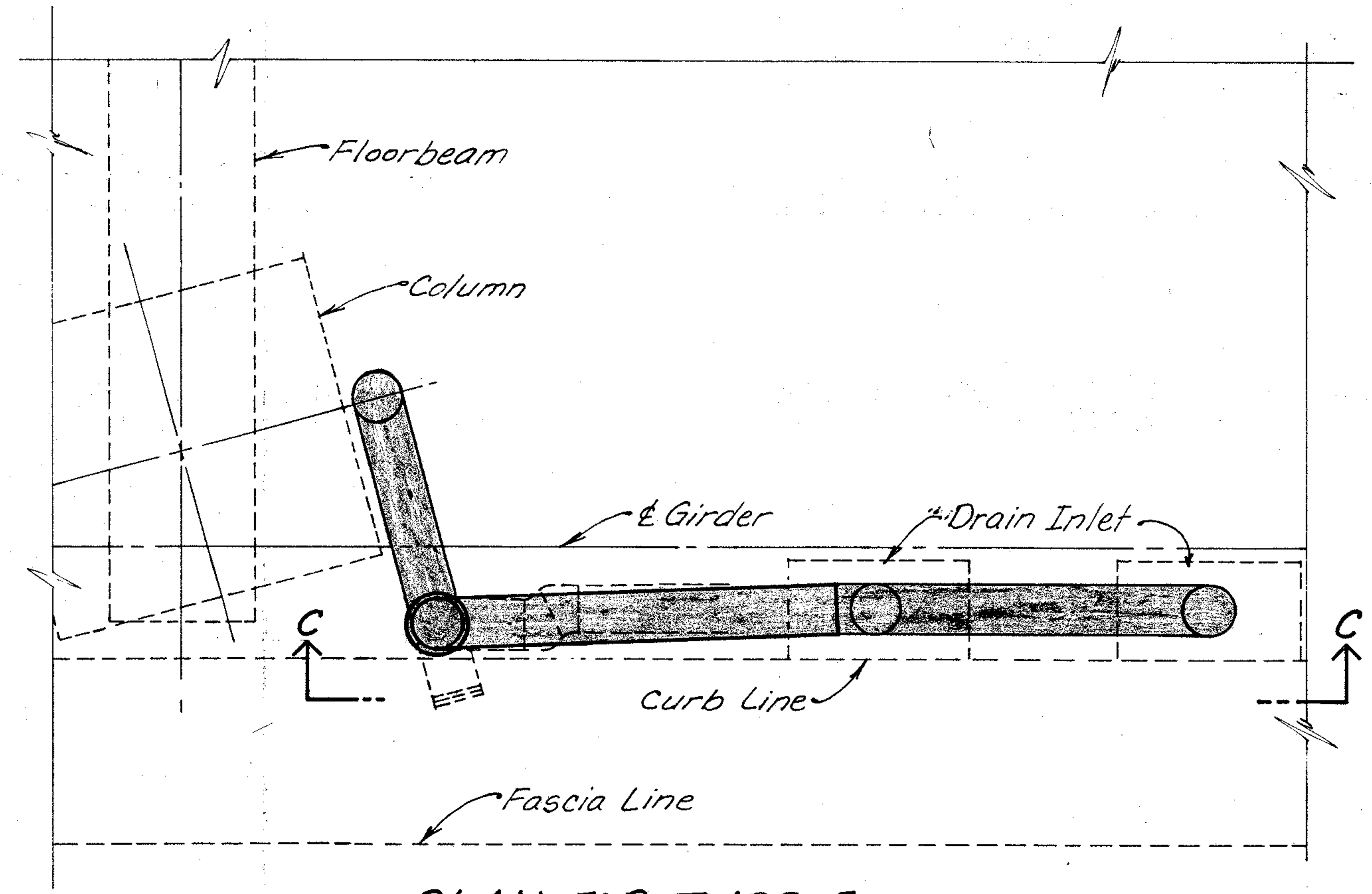
PLAN FOR TYPE D
At Pier 1 (No Work Required)



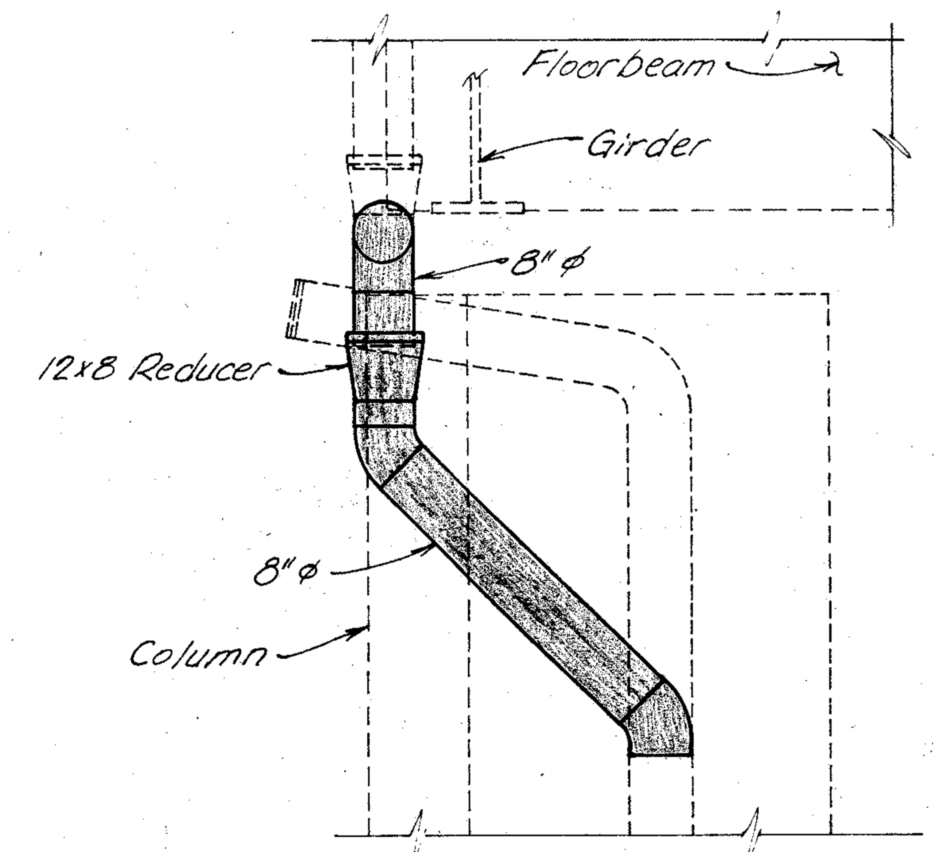
SECTION A-A



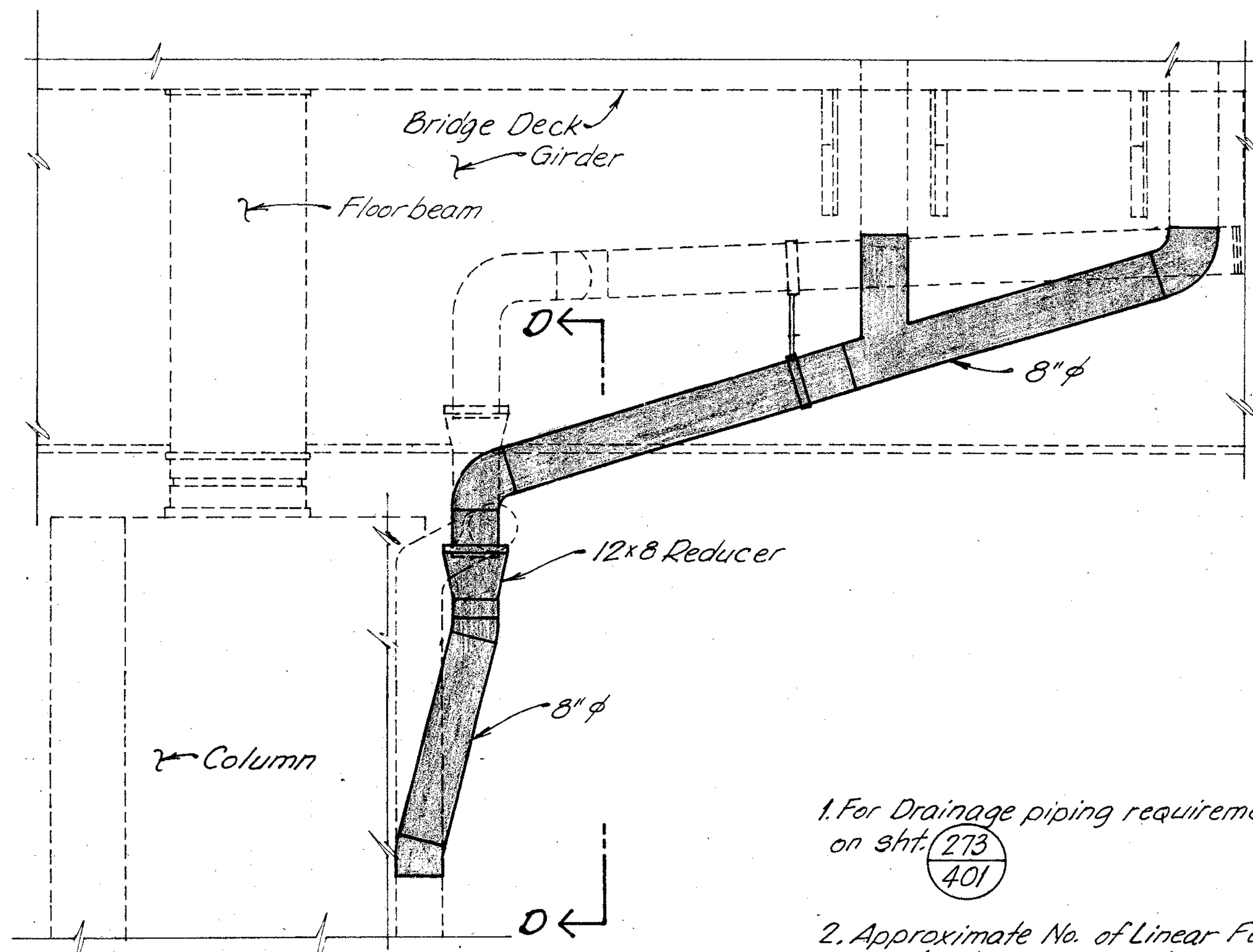
SECTION B-B



PLAN FOR TYPE E
At Pier 2



SECTION D-D



SECTION C-C

1. For Drainage piping requirements see General Notes on sht. 273/401
2. Approximate No. of Linear Feet of proposed 8"ϕ pipe (including specials) = 70'

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10/11

DRAINAGE DETAILS

BRIDGE NO. HAM-71-0243L
OVER RAMP RF, NORTHBOUND READING ROAD AND EDEN PARK ENTRANCE

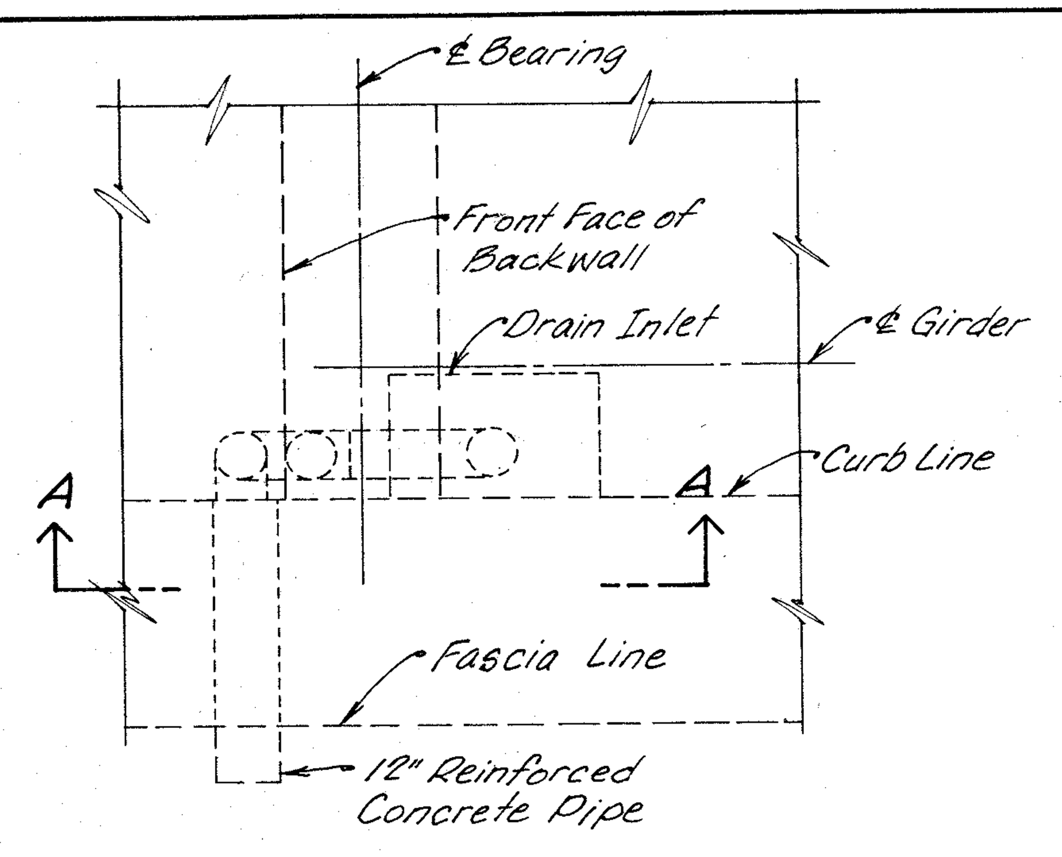
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.R.	L.A.P.		D.E.M.	P.W.G.	11/11/94	

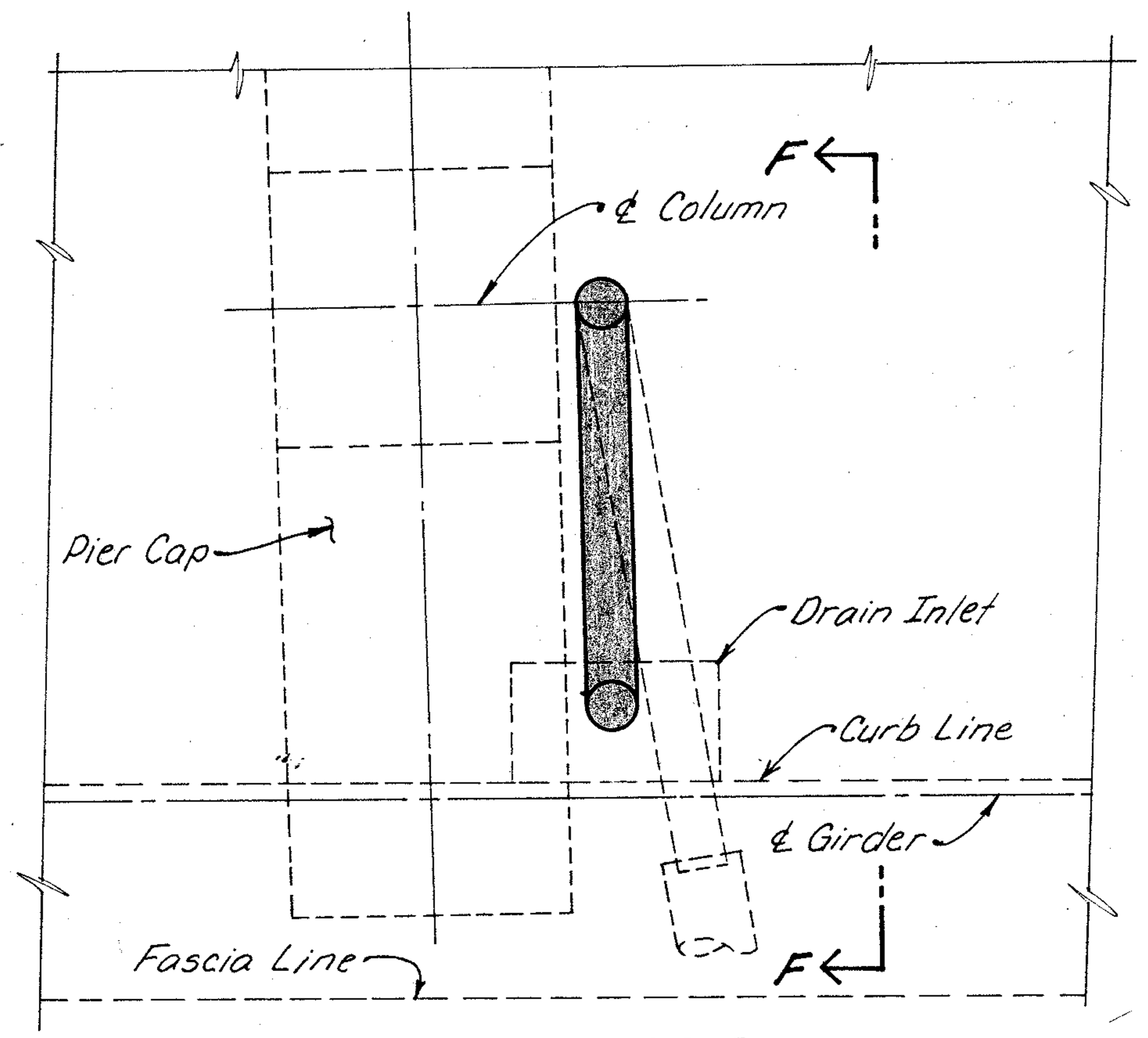
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

364/401

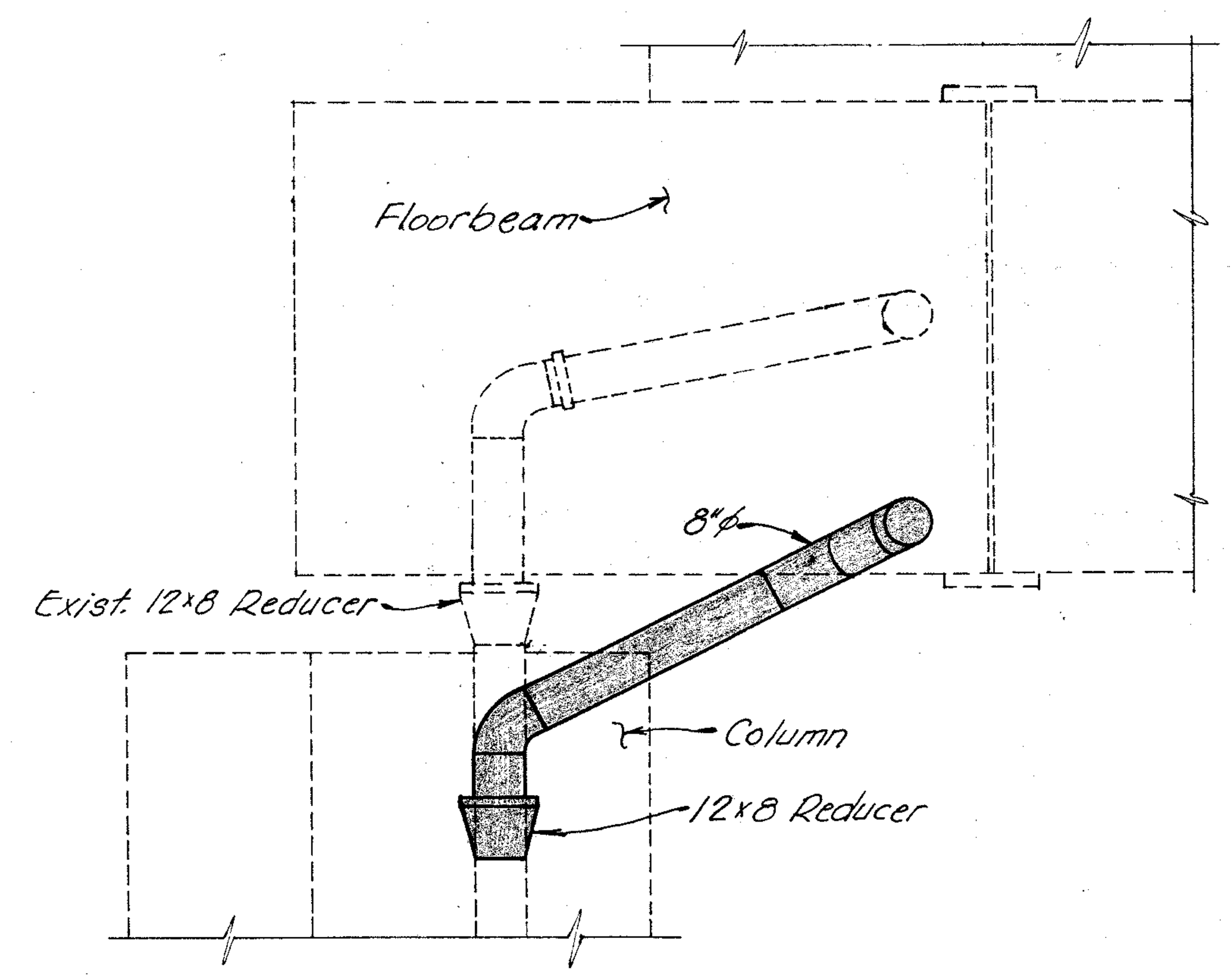
HAM-71-1.30/9.00



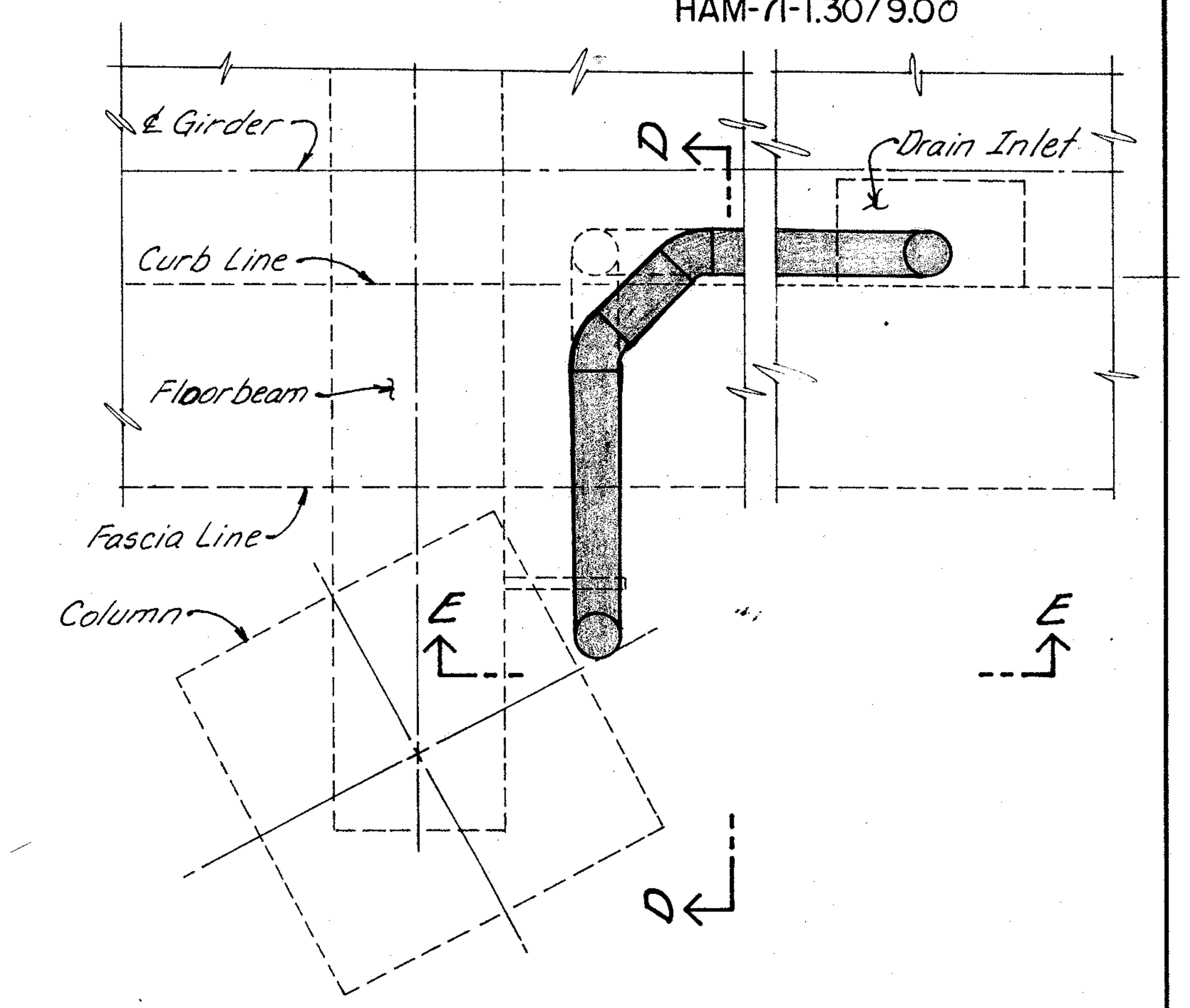
PLAN FOR TYPE C (Rear Abutment)
- NO WORK REQUIRED-



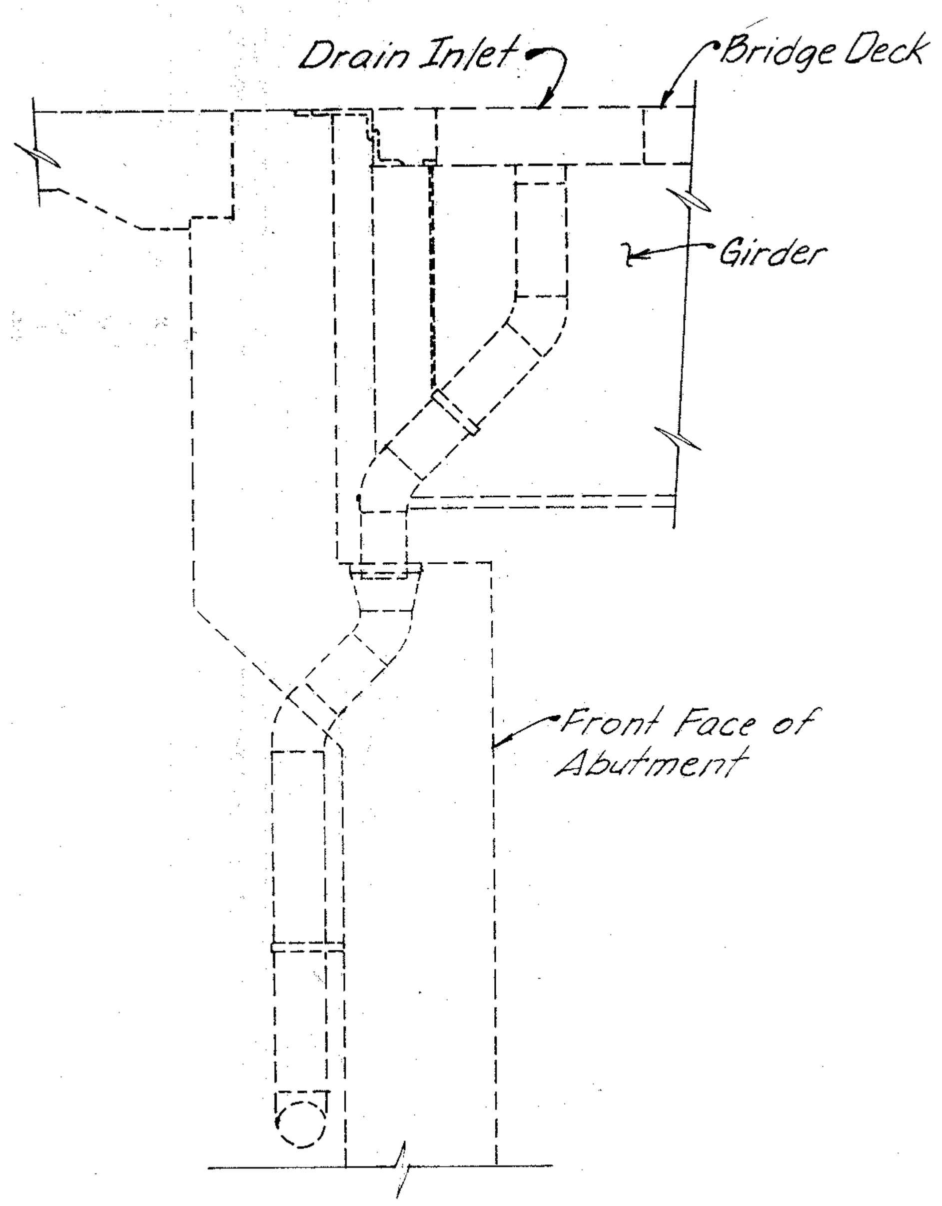
PLAN FOR TYPE B
At Pier 6



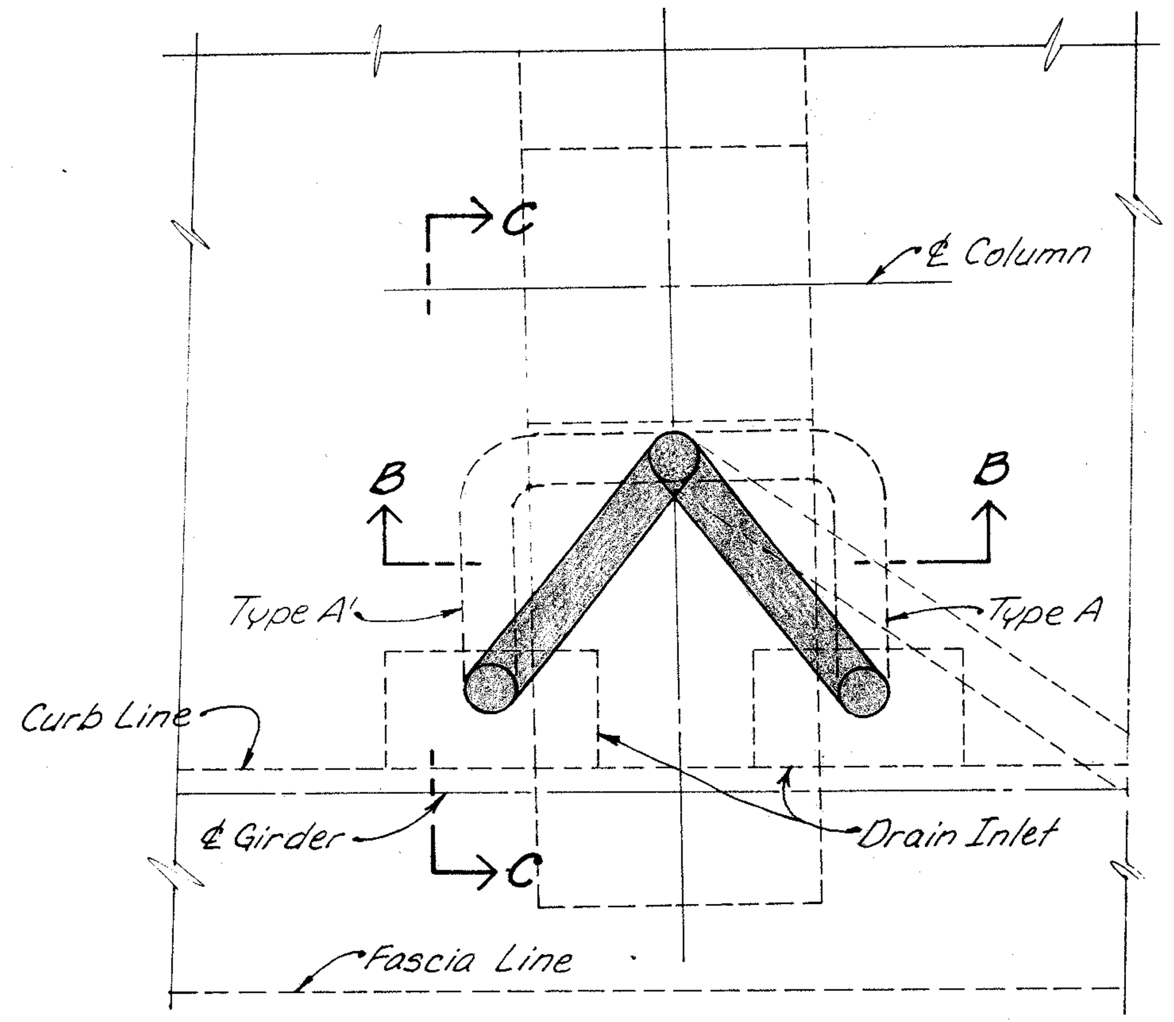
SECTION D-D



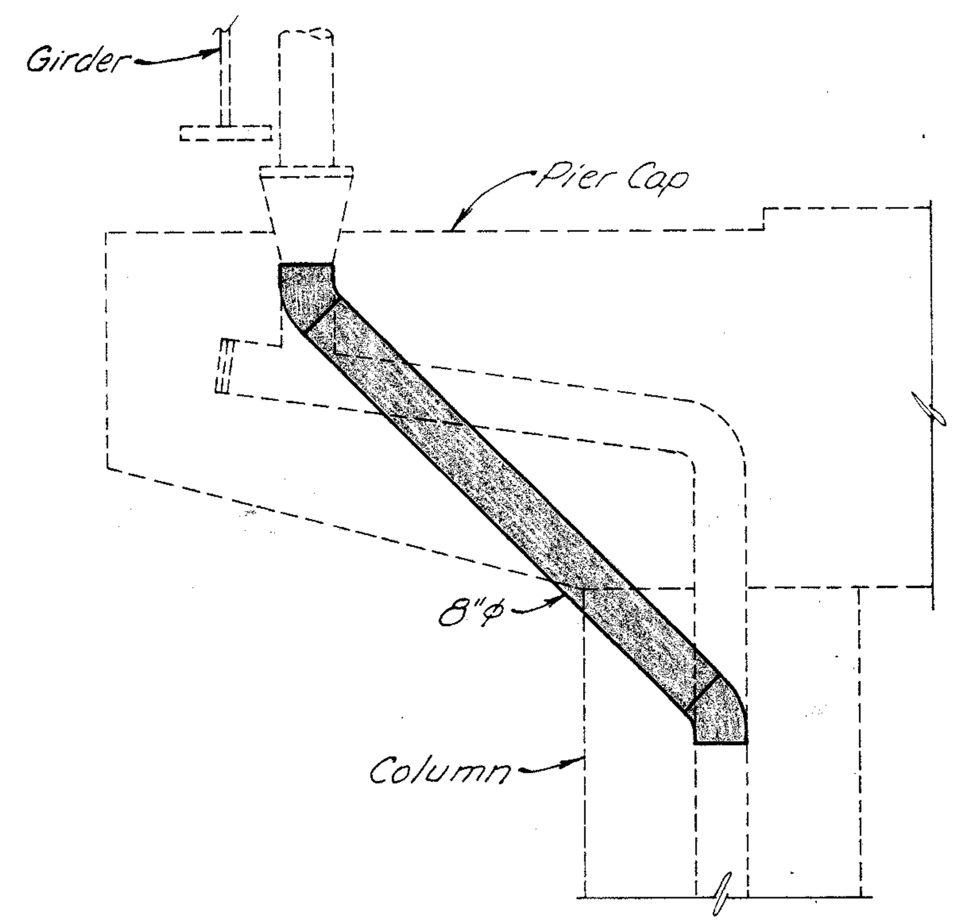
PLAN FOR TYPE F
At Pier 3



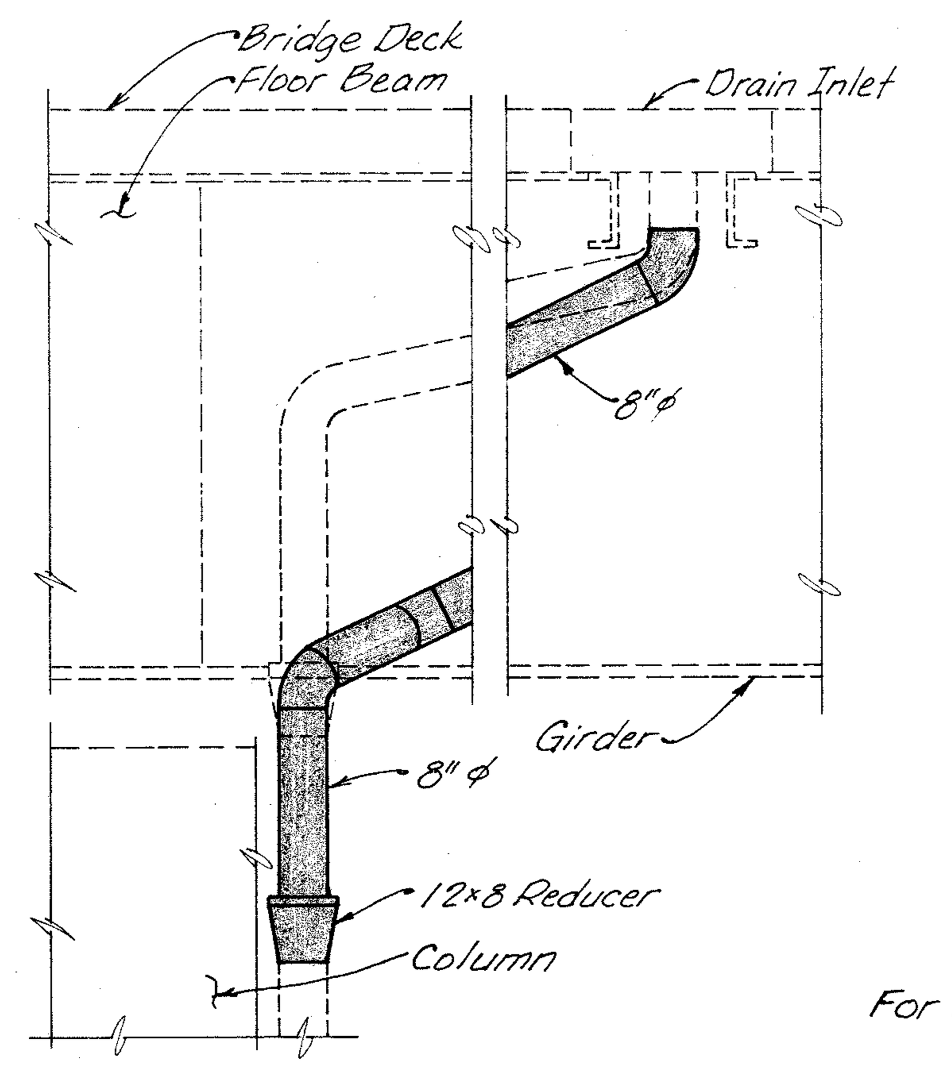
SECTION A-A



PLAN FOR TYPE A OR A'
Type A At Pier 4, Type A' At Pier 5

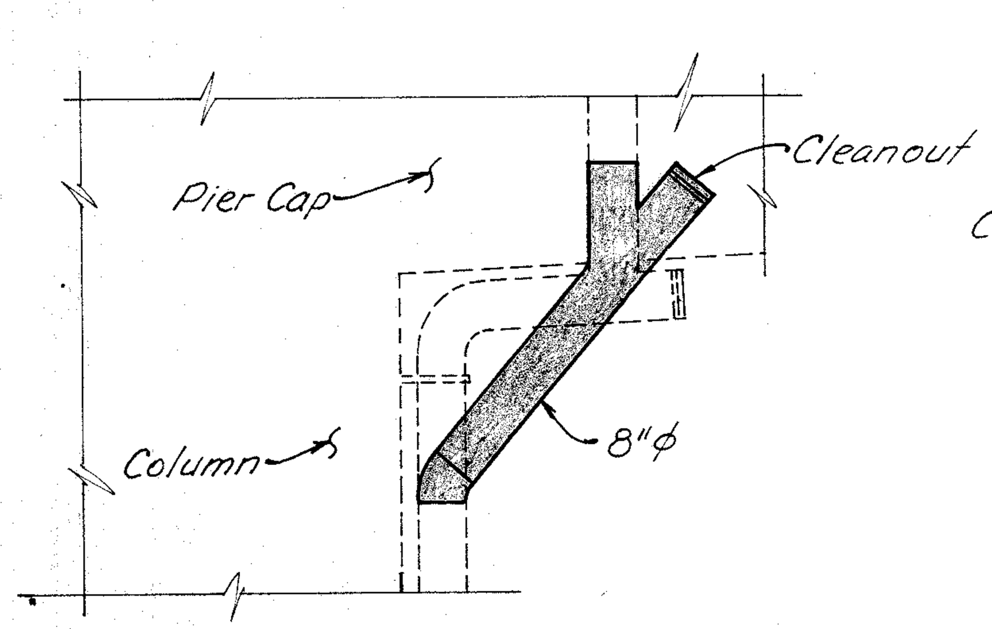


SECTION F-F

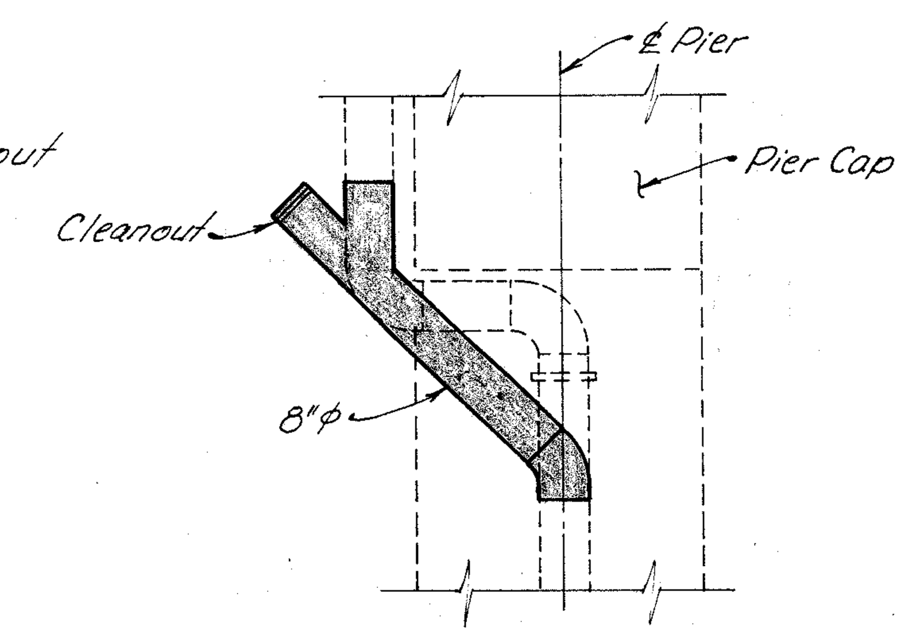


SECTION E-E

For Notes see sht. 10/11



SECTION C-C
Type A' shown. Type A same but opposite hand.



SECTION B-B
Type A' shown. Type A same but opposite hand.

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11/11

DRAINAGE DETAILS

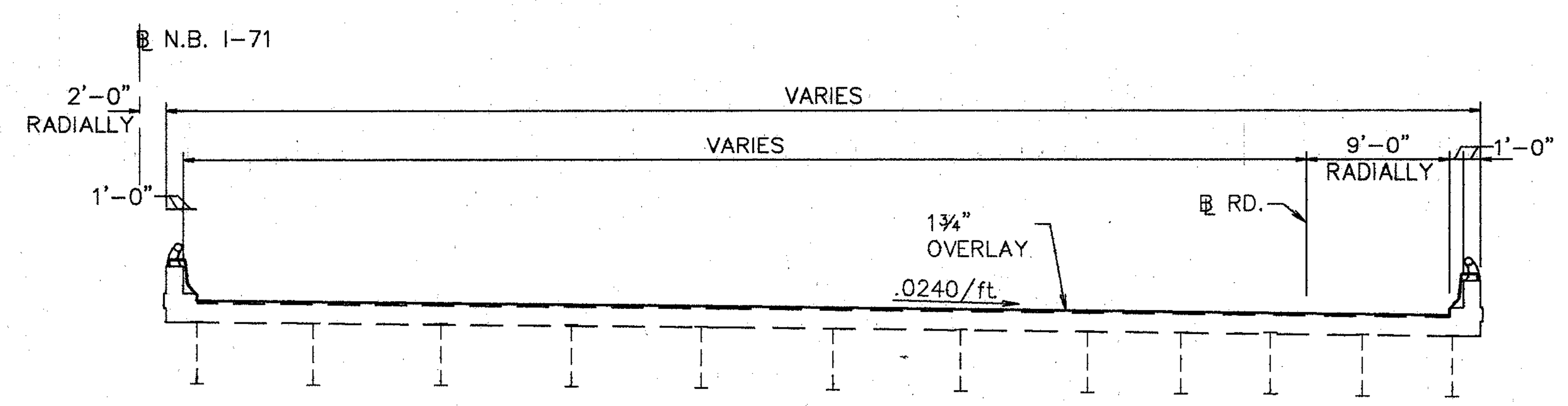
BRIDGE NO. HAM-71-0243L
OVER RAMP RF, NORTHBOUND READING ROAD AND EDEN PARK ENTRANCE

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	L.A.P.		D.E.M.	P.W.G.	11/11/94	

PLAN

FOR NOTES SEE SHT. 2/9



TYP. BRIDGE SECTION

ROCKER OR SLIDING ℙ	JACK CAPACITY REQ'D. (MIN)
R200	150 TON
E150	75 TON

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAMS (SPANS 1 THRU 8) & CONTINUOUS PLATE GIRDERS (SPANS 9 THRU 13) W/REINF. CONCRETE DECK AND SUBSTRUCTURE.
SPANS: 66'-0"(SPANS 1 THRU 8) 107'-0"(SPAN 9) 134'-0"(SPAN 10) & 128'-0"(SPANS 11 THRU 13)
ROADWAY: VARIES, SEE PLAN; 80' MIN. F-F PARAPET
SKEW: 0°(MEASURED FROM FORWARD TANGENT)
LOADING FREQUENCY: C.F.=2000 (57) ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: SEE PLAN
SUPERELEVATION: VARIES, SEE PLAN

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409 E. MONUMENT AVENUE
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GENERAL PLAN

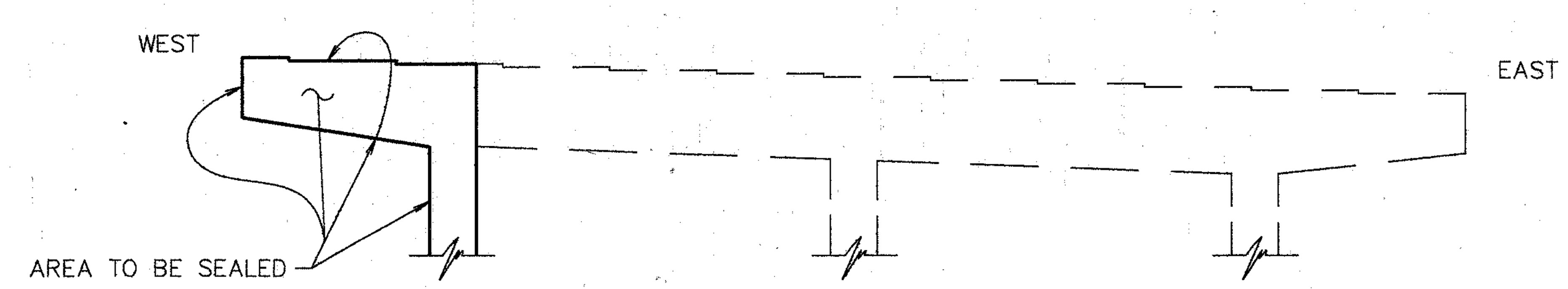
BRIDGE NO. HAM-71-0243 R
OVER EDEN PARK ENTR.

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	

CALC. BY L.A.T.M. DATE 9-25-94 / CHK'D BY DEM DATE 10-6-94	HAM-71-1.30/9.00	OHIO / F.H.W.A. REGION 5	366 / 401

PLAN



PIER AREA TO BE SEALED FOR
PIERS 1, 2, 3, 5, 6 & 7

NOTES:

1. MODIFY DRAINAGE PIPING. SEE SHT. 7/9
2. SEAL PARAPETS, BACKWALLS & PIERS. SEAL PIERS 1, 2, 3, 5, 6, & 7 WITH EPOXY OR NON-EPOXY. SEAL ONLY THE WEST PORTION AS DETAILED ON THIS SHT. SEAL PIERS 4 & 8 WITH EPOXY. SEAL COMPLETELY EXCEPT FOR ¼ THE COLUMN PERIMETER AWAY FROM TRAFFIC. SEAL PIER 9 THRU 12 WITH EPOXY OR NON-EPOXY. SEAL COMPLETELY EXCEPT FOR TOPS OF COLUMNS.
3. SEE JUNCTION BOX EXTENSION DETAIL GENERAL DETAIL SHT. 273/401 FOR BARRIER RETROFIT AT JUNCTION BOXES. REFER TO LIGHTING PLANS FOR TYPE AND LOCATION.

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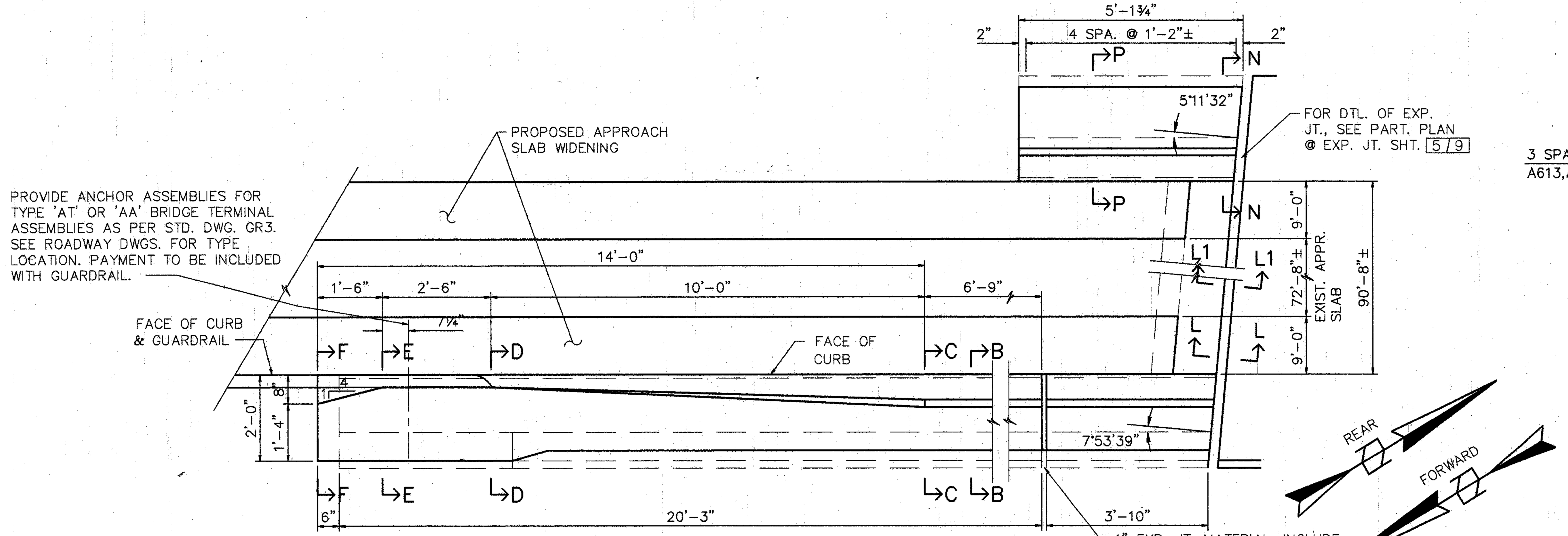
GENERAL PLAN

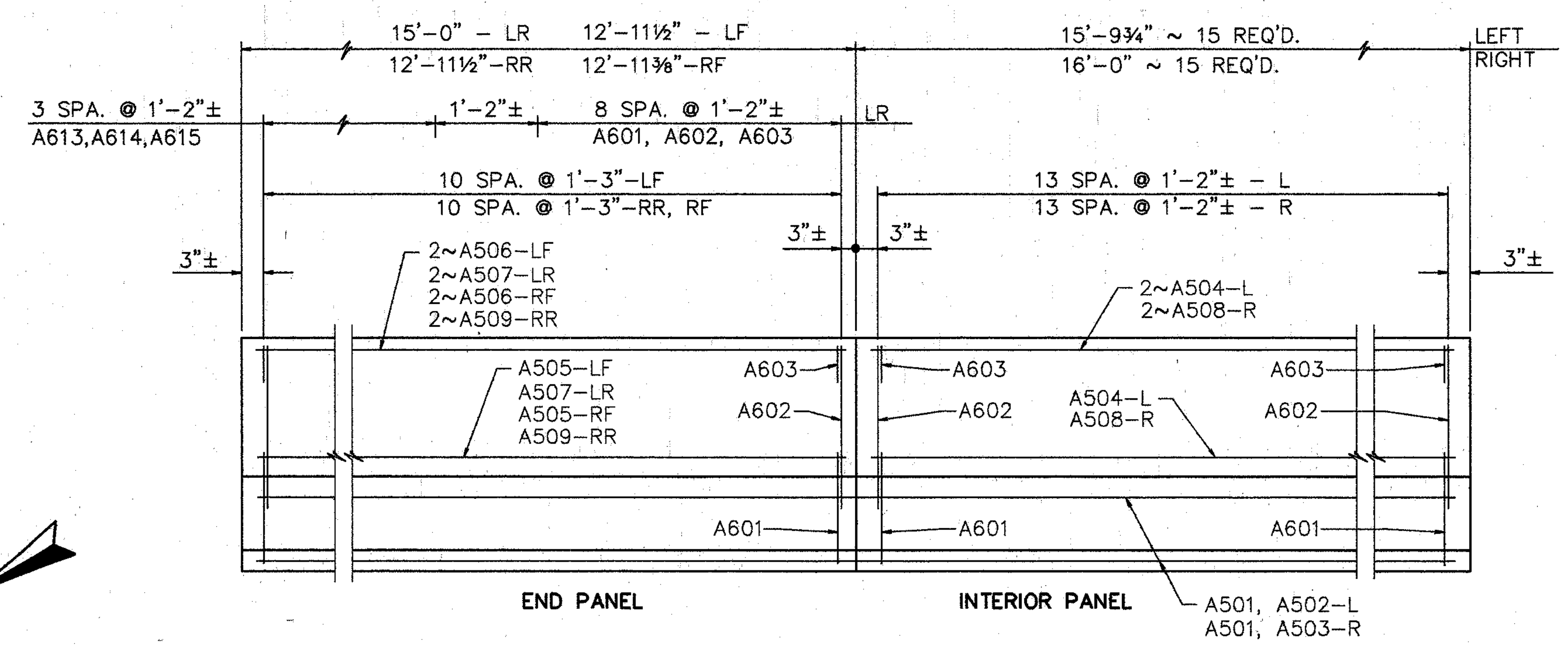
BRIDGE NO. HAM-71-0243 R
OVER EDEN PARK ENTR.

HAMILTON COUNTY

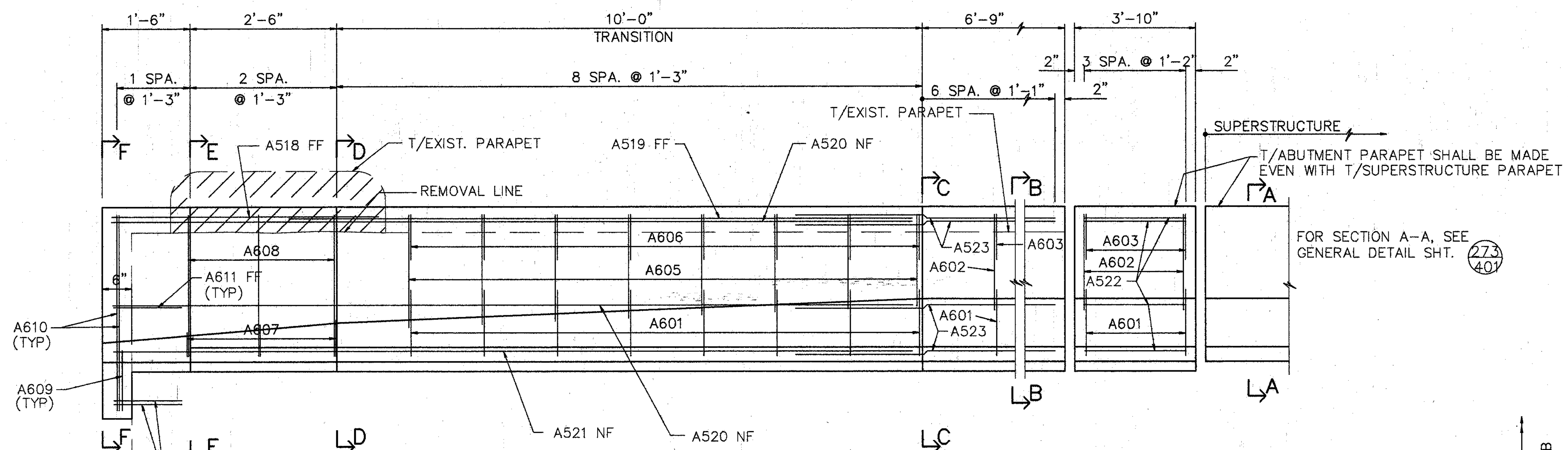
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	



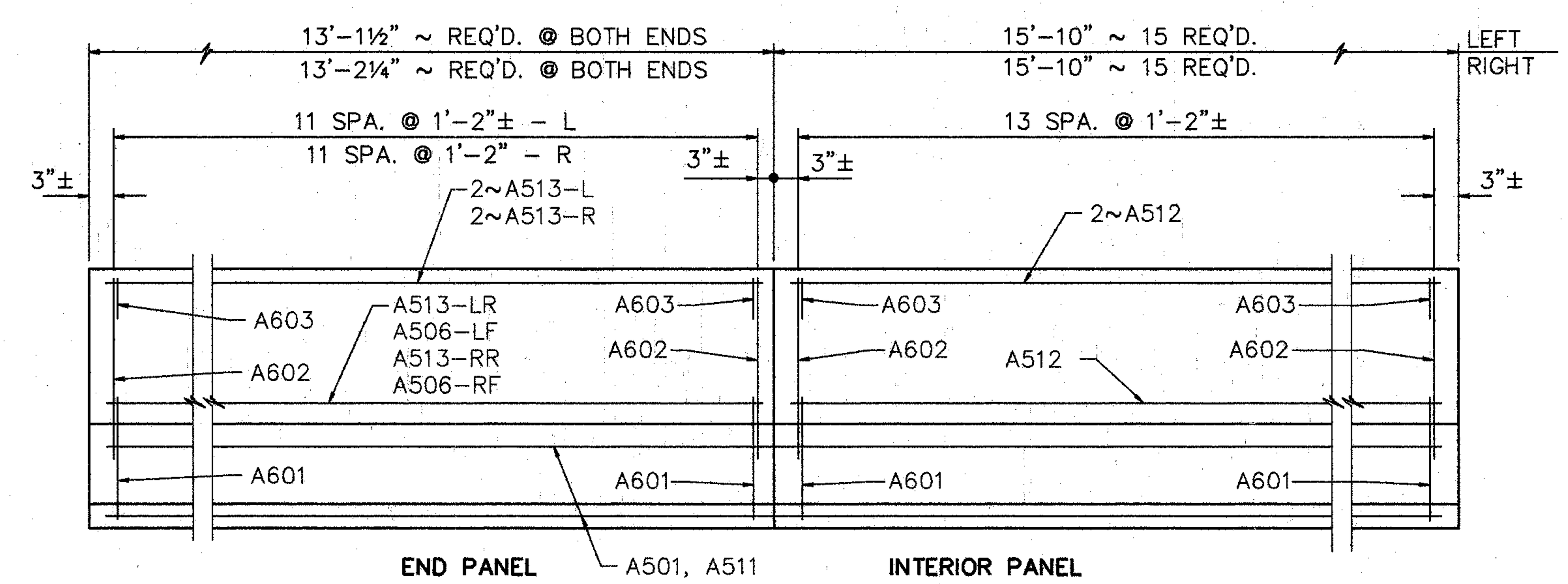
PLAN – ABUTMENT MODIFICATION (REAR)



ELEVATION SUPERSTRUCTURE PARAPET
SPAN 1-4



ELEVATION RIGHT – REAR

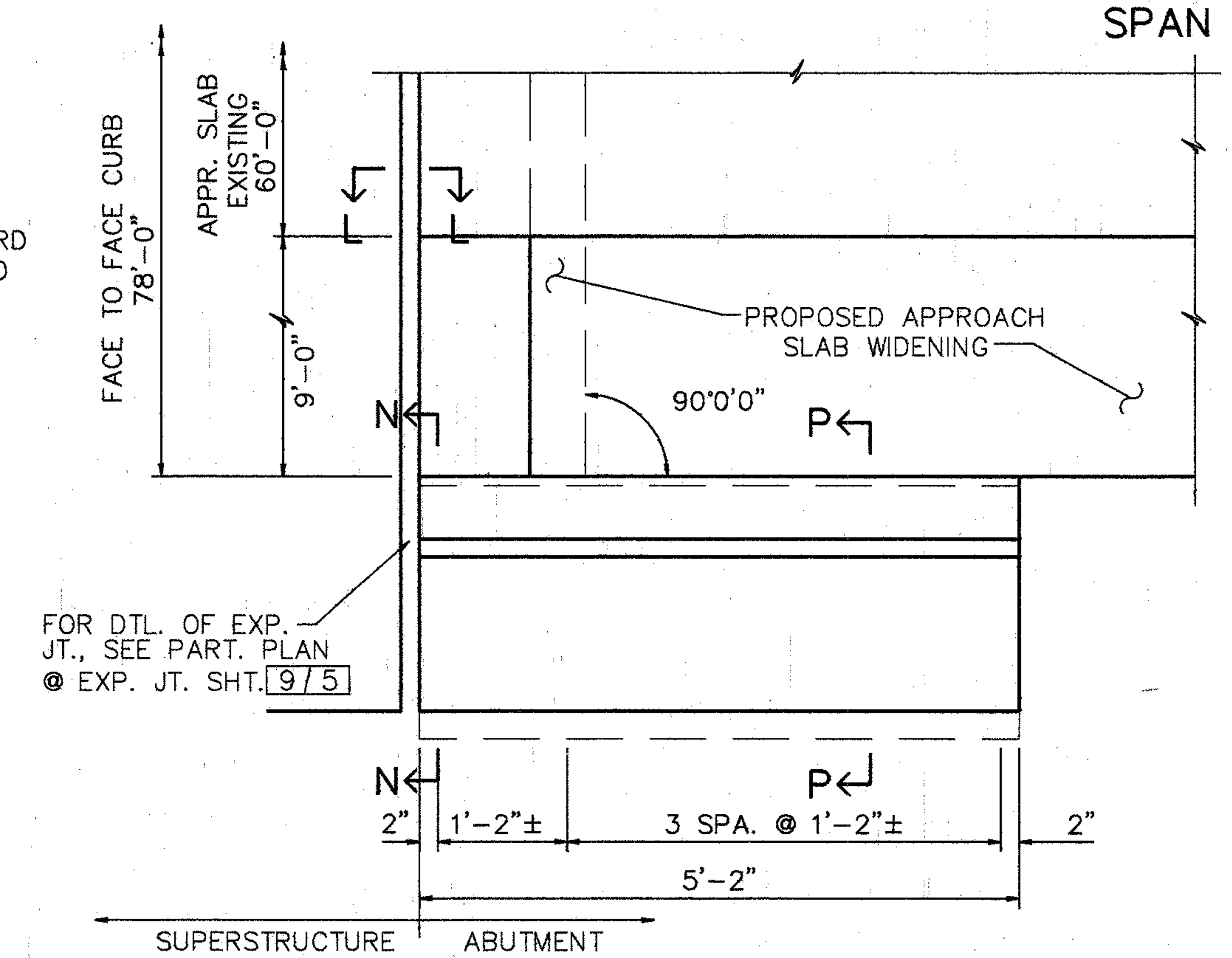


ELEVATION SUPERSTRUCTURE PARAPET
SPAN 5-8

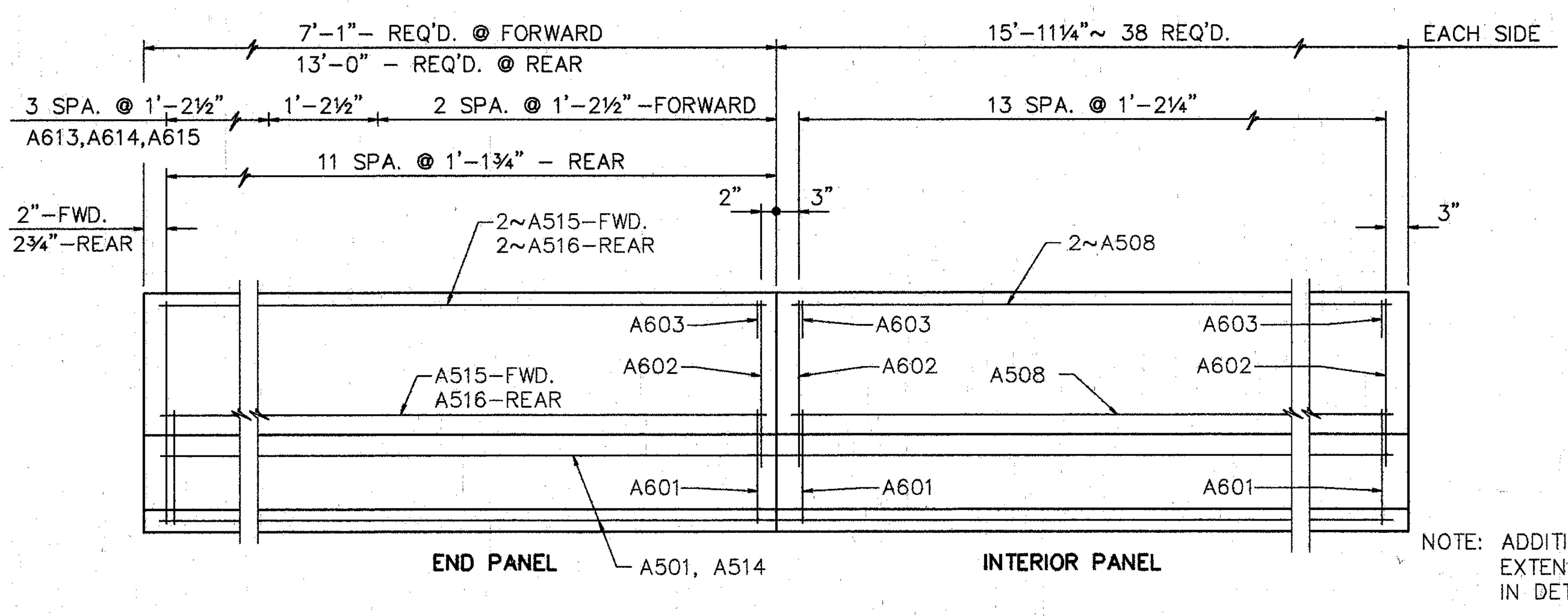
NOTES:

L DENOTES LEFT SIDE
R DENOTES RIGHT SIDE
RF DENOTES RIGHT FORWARD
LF DENOTES LEFT FORWARD
RR DENOTES RIGHT REAR
LR DENOTES LEFT REAR
NF DENOTES NEAR FACE
FF DENOTES FAR FACE

SEE NOTES SHT. 4/9



PLAN – ABUTMENT MODIFICATION (FORWARD)
RIGHT WALL SHOWN, LEFT IS OPPOSITE HAND



NOTE: ADDITIONAL A510 & A616 EXTEND EXISTING AS NOTED IN DETAIL.

ELEVATION SUPERSTRUCTURE PARAPET
SPAN 9-13

WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660

3/9

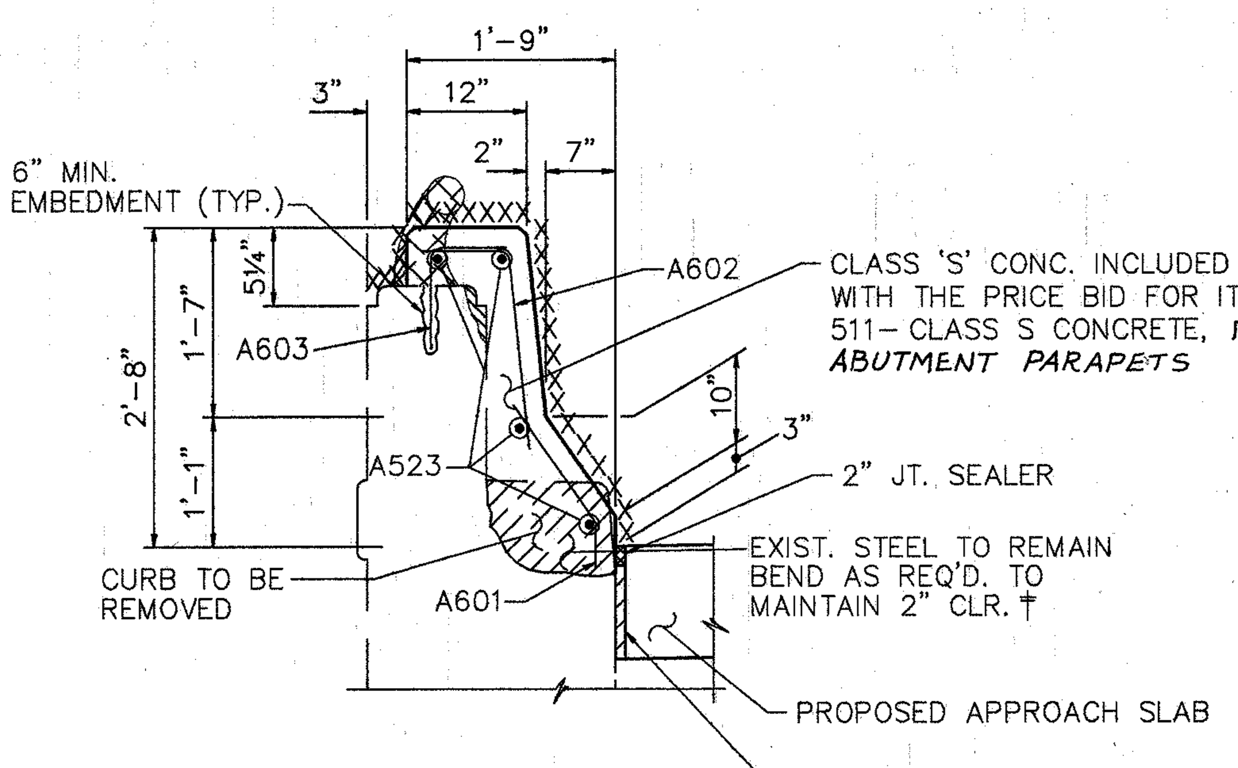
PARAPET SECTIONS AND DETAILS

BRIDGE NO. HAM-71-0243 R
OVER EDEN PARK

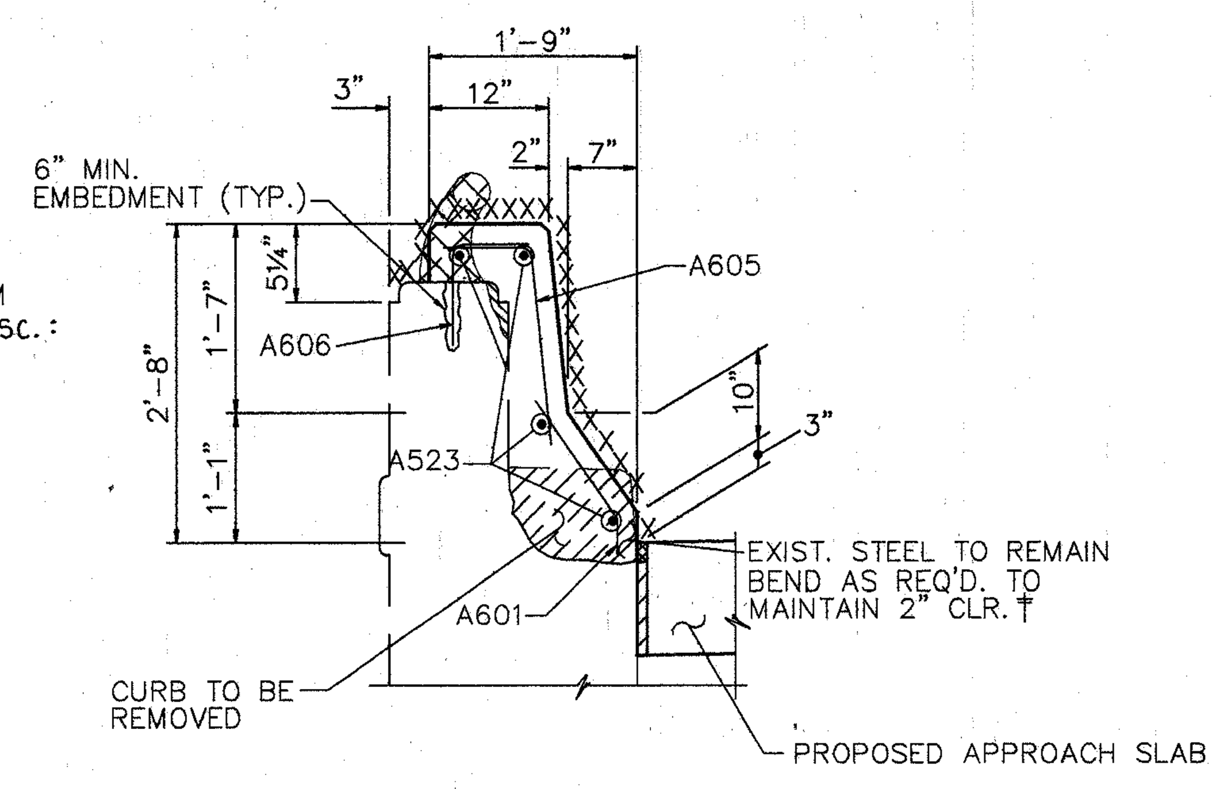
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM	11/11/94	

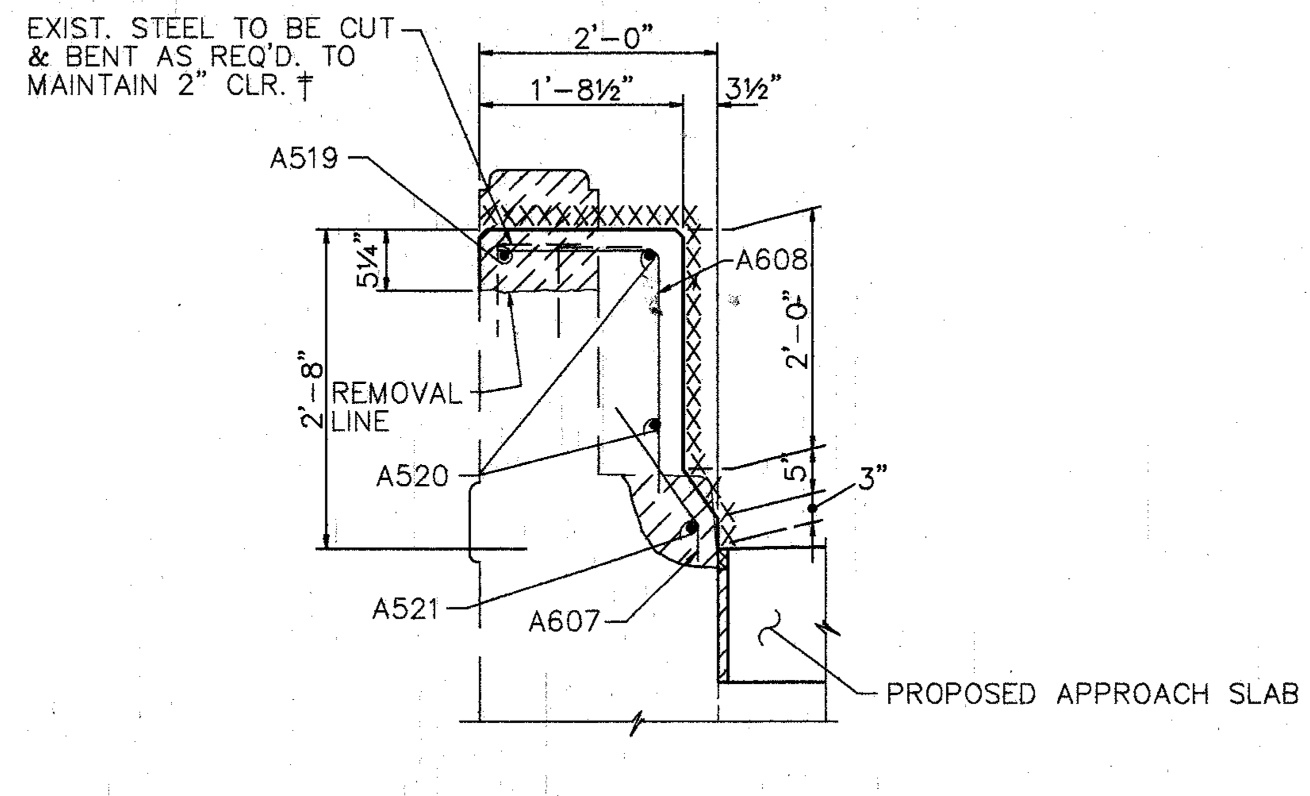
Last Plot: MAY 15, 1991 @ 7:42 PM Last Revision By: RADH JUN. 1, 1993 @ 8:50 AM



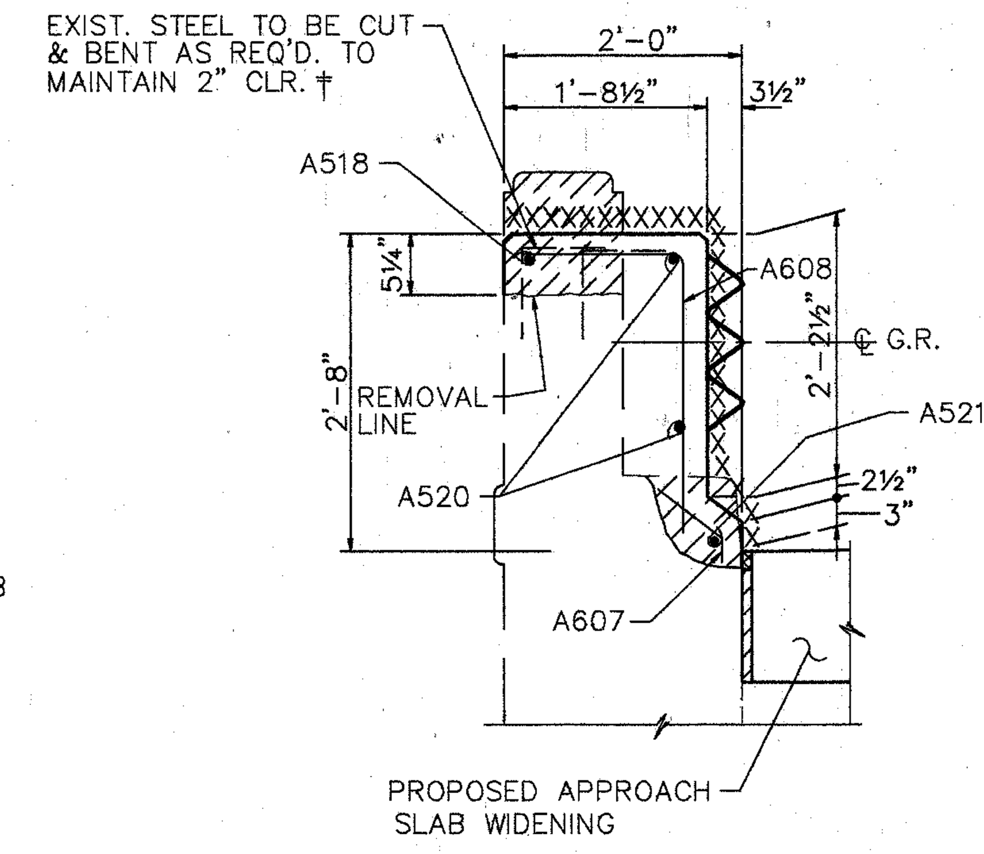
SECTION B–B



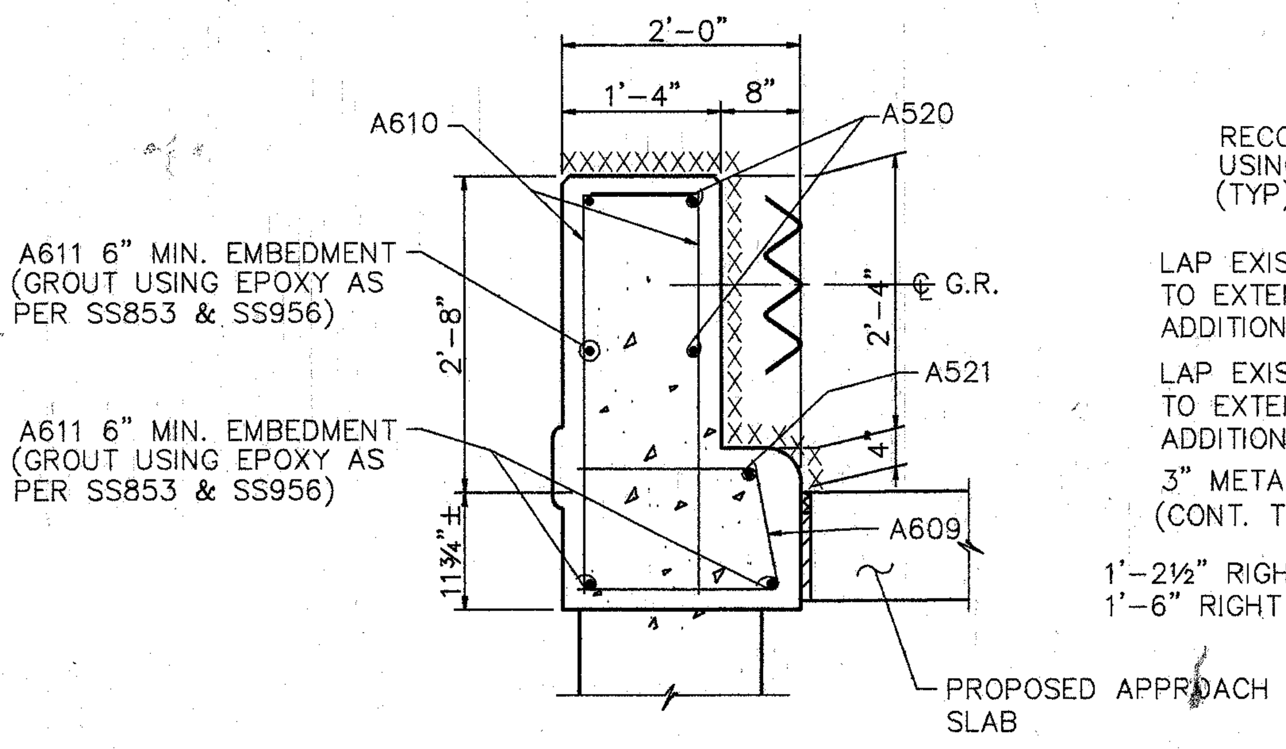
SECTION C–C



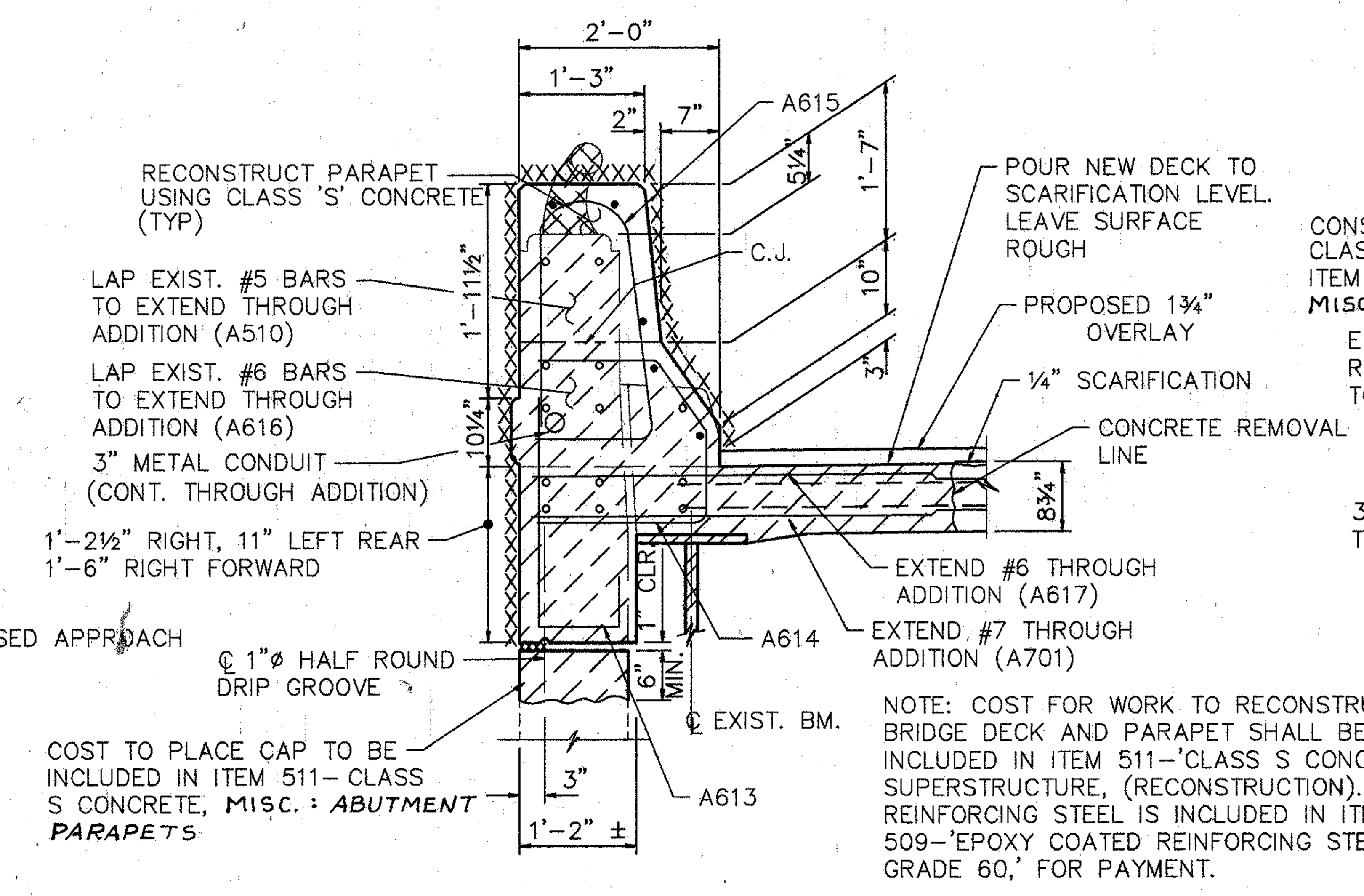
SECTION D–D



SECTION E–E

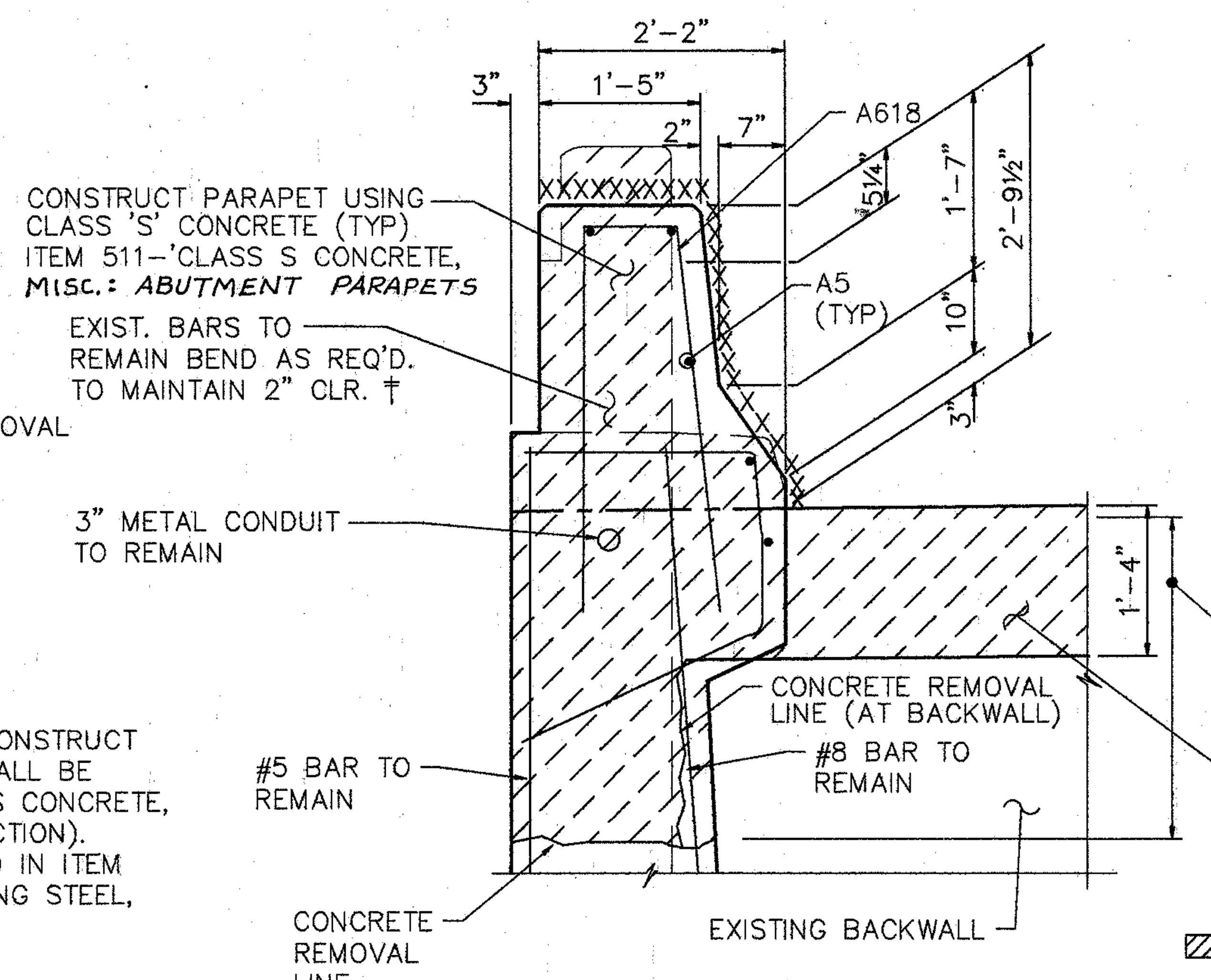


SECTION F–F



SECTION M–M

NOTE: COST FOR WORK TO RECONSTRUCT BRIDGE DECK AND PARAPET SHALL BE INCLUDED IN ITEM 511-'CLASS S CONCRETE, SUPERSTRUCTURE, (RECONSTRUCTION). REINFORCING STEEL IS INCLUDED IN ITEM 509-'EPOXY COATED REINFORCING STEEL, GRADE 60,' FOR PAYMENT.



SECTION N–N

† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONC. REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.

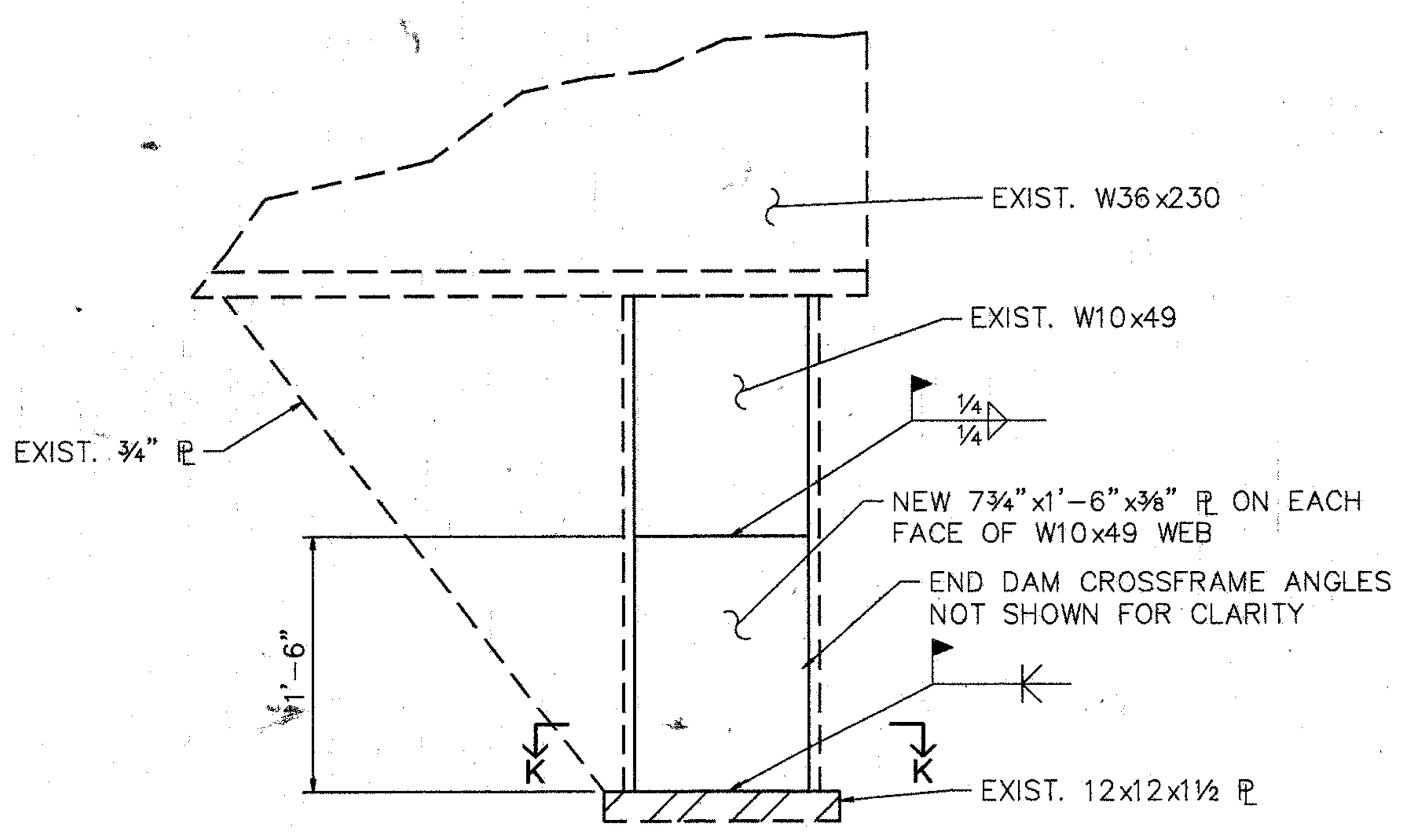
EXIST. CURB & PARAPET TO BR REMOVED UNDER ITEM 202-'PORTIONS OF STRUCTURES REMOVED'.

EXIST. RAILING & POSTS TO BE REMOVED & STACKED NEATLY ALONG THE RIGHT-OF-WAY FOR DISPOSAL BY THE CONTRACTOR. ALL WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202-'PORTIONS OF STRUCTURE REMOVED'.

XXXXXX SURFACES TO BE SEALED UNDER ITEM SPECIAL-'SEALING OF CONCRETE SURFACES.

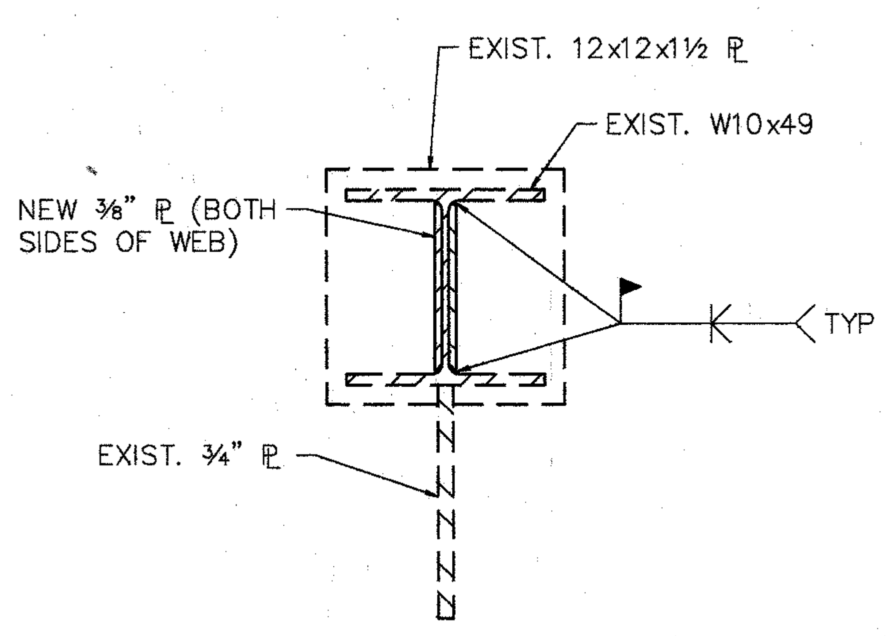
NOTES:

1. TYPE 'A" WATERPROOFING AT THE BRIDGE LIMIT END OF THE APPROACH SLAB (AS PER STD. DWG. AS-1-81) SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611 APPROACH SLAB.



ELEVATION

NOTE: CLEAN EXISTING STRUCTURAL STEEL AND REMOVE DETERIORATED STEEL PRIOR TO ADDING STEEL ℞'S. COST TO BE INCLUDED IN ITEM 513, STRUCTURAL STEEL (MISC. AND CASTINGS), AS PER PLAN

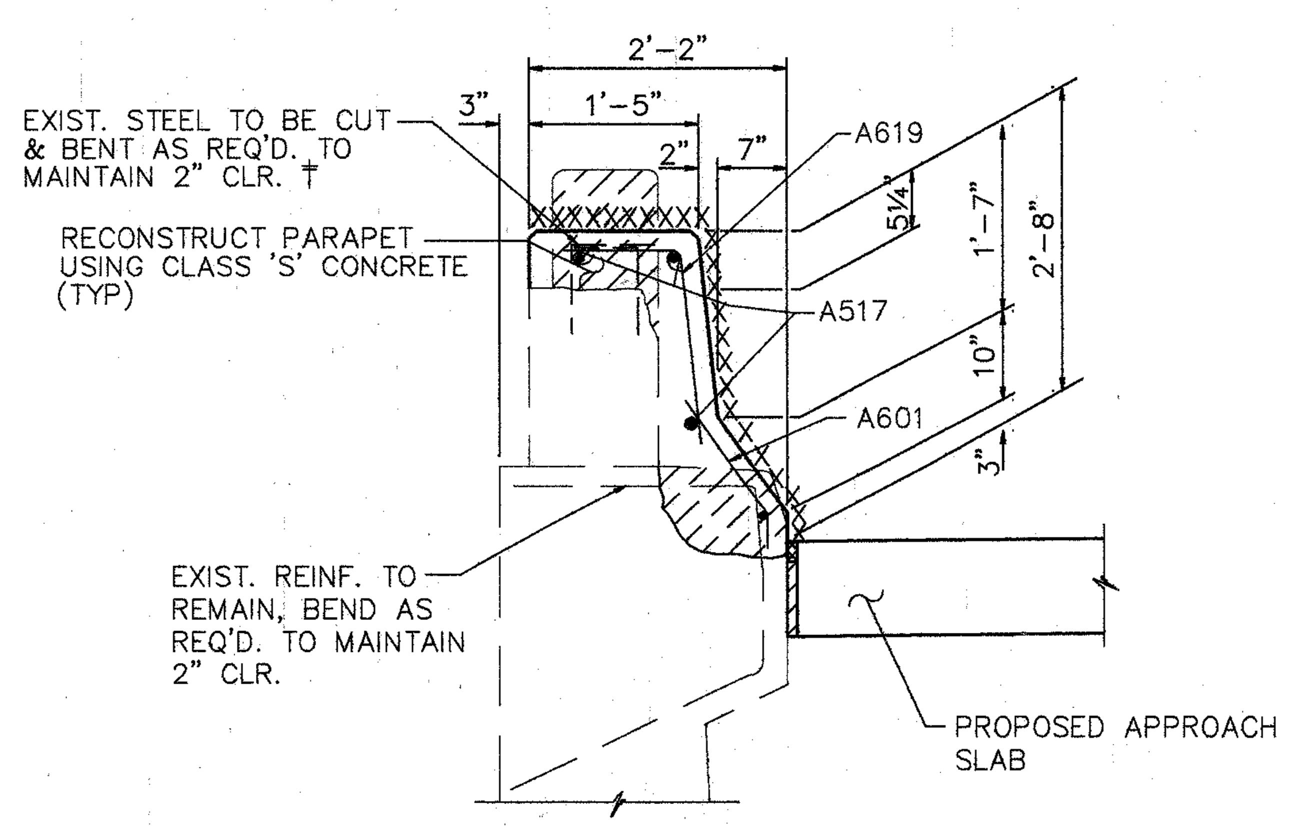


SECTION K–K

NOTE: PREPARE, PRIME AND PAINT ALL STEEL SURFACES WITHIN 6'-0" OF THE ℄ OF PIER No. 8. COST FOR THIS WORK SHALL BE INCLUDED IN LUMP SUM BID FOR ITEM 513, STRUCTURAL STEEL (MISC. & CASTINGS), AS PER PLAN. THE SYSTEM UTILIZED IS SPECIFIED IN THE PROPOSAL NOTE ENTITLED, "FIELD PAINTING OF EXIST. STEEL, USING EPOXY & URETHANE (EEU).

SHORT COL. REPAIR DETAIL

COST TO REPAIR SHORT COLUMNS SHALL BE PER POUND INCLUDED IN ITEM 513 - 'STRUCTRUAL STEEL (MISC. AND CASTINGS), AS PER PLAN.



SECTION P–P

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4/9

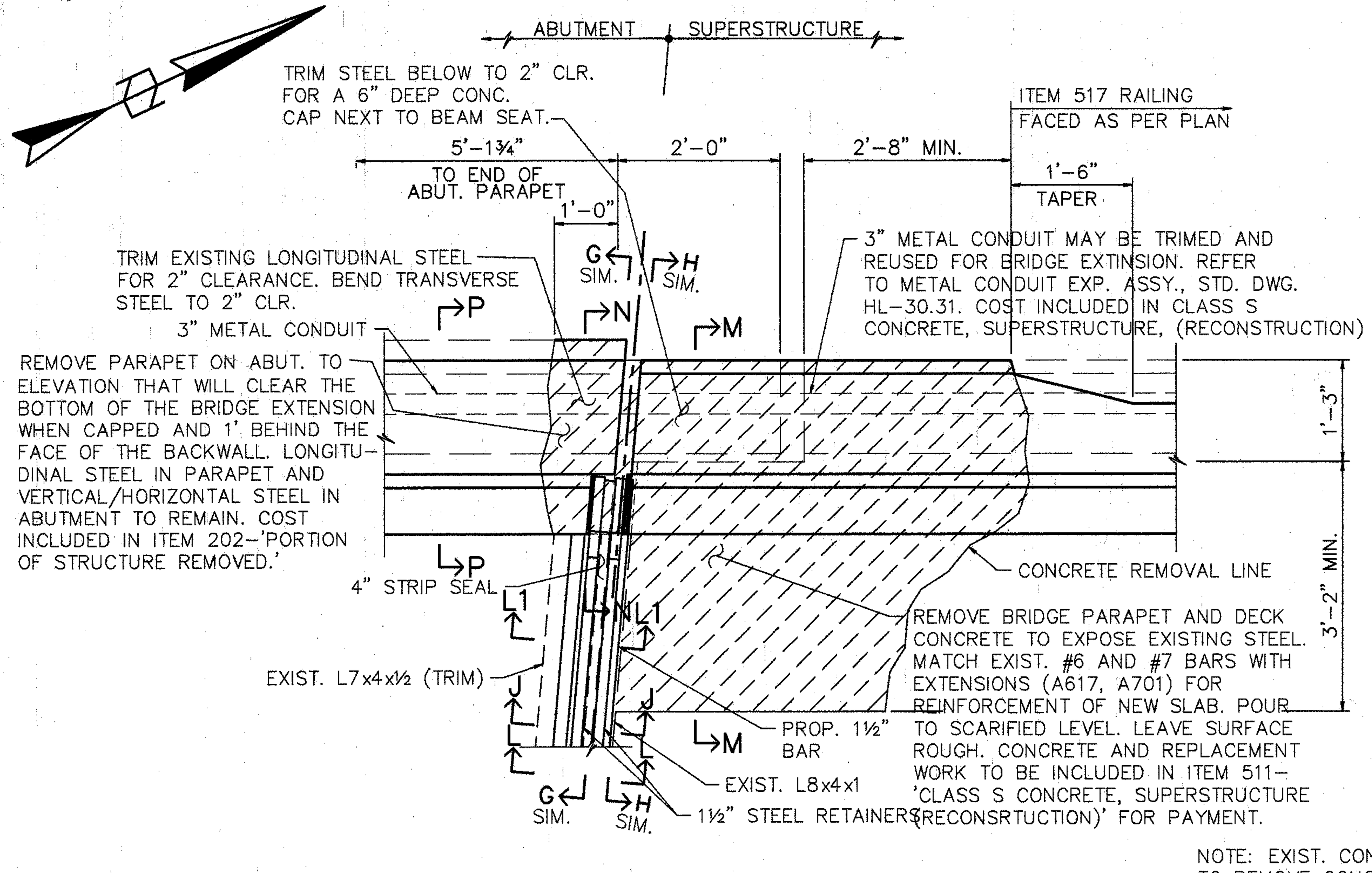
PARAPET DETAILS AND SHORT COL. REPAIR DETAIL

BRIDGE NO. HAM-71-0243 R
OVER EDEN PARK

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	

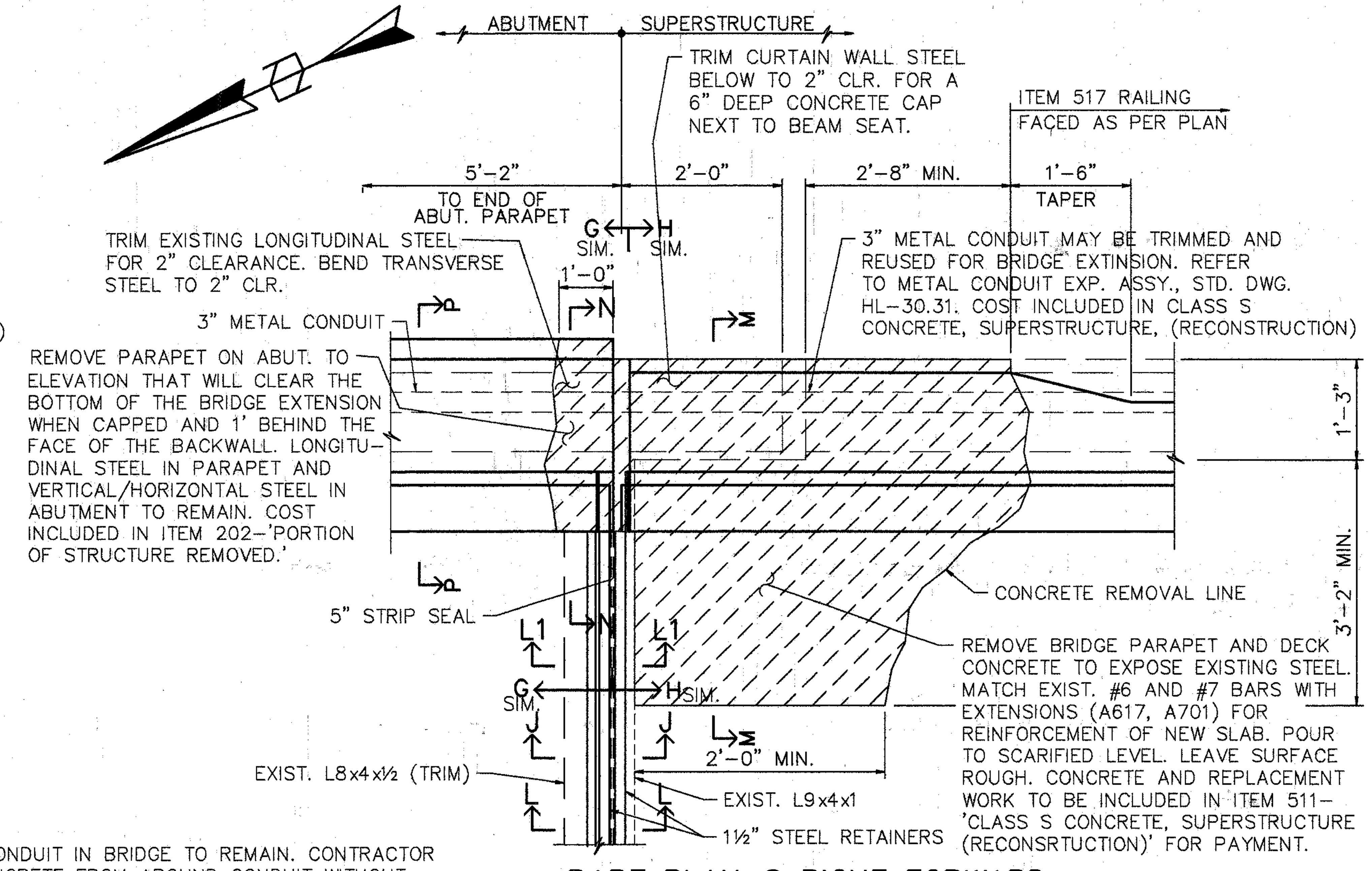
Last Plot: MAY 15, 1991 @ 7:46 PM Last Revision By: RACH OCT. 7, 1992 @ 1:07 PM



PART PLAN @ REAR-LEFT

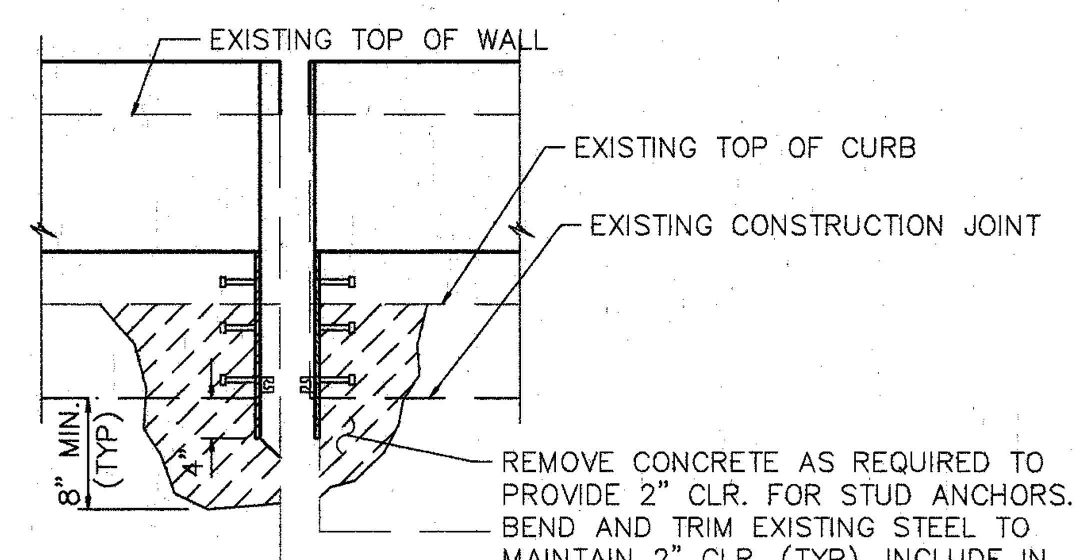
NOTE: EXIST. CONDUIT IN BRIDGE TO REMAIN. CONTRACTOR TO REMOVE CONCRETE FROM AROUND CONDUIT WITHOUT DAMAGING CONDUIT OR ITS CONTENTS.

THE COSTS TO REMOVE PORTIONS OF ABUTMENT AND SUPERSTRUCTURE TO BE INCLUDED IN THE PRICE BID FOR ITEM 202-PORTION OF STRUCTURE REMOVED.

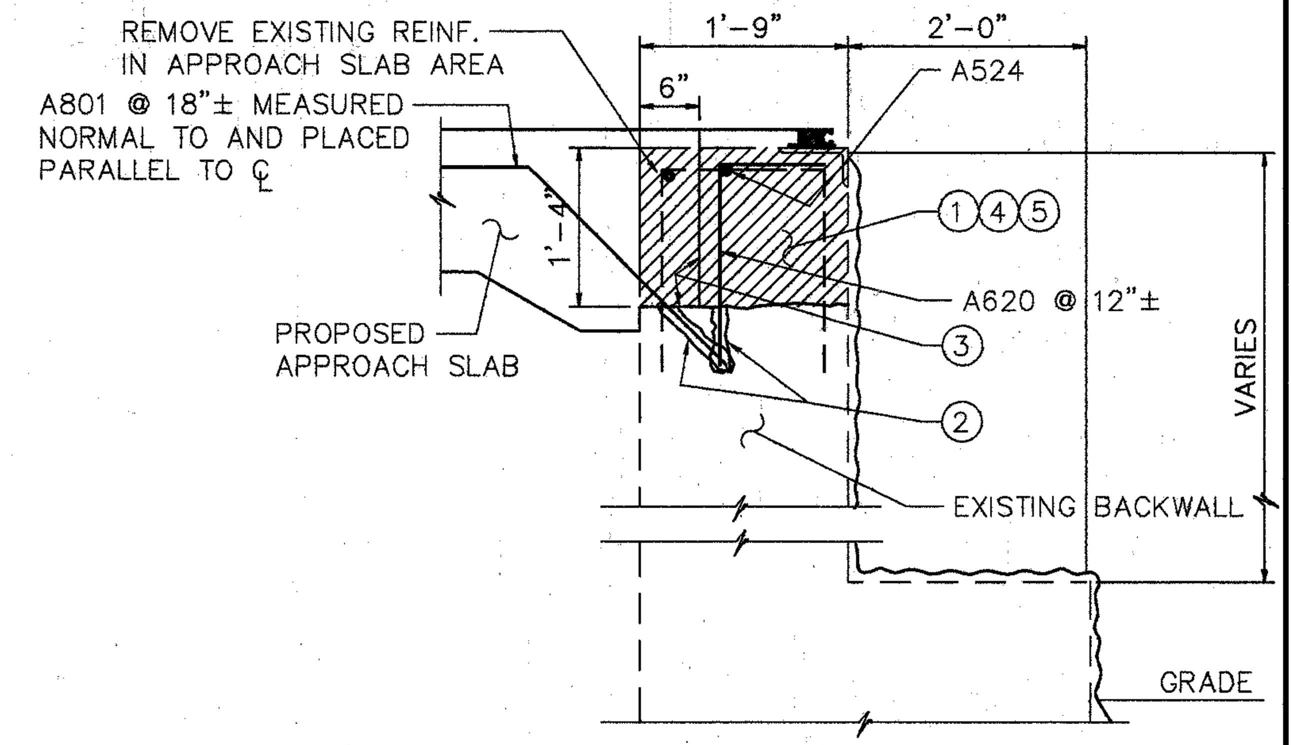


PART PLAN @ RIGHT FORWARD

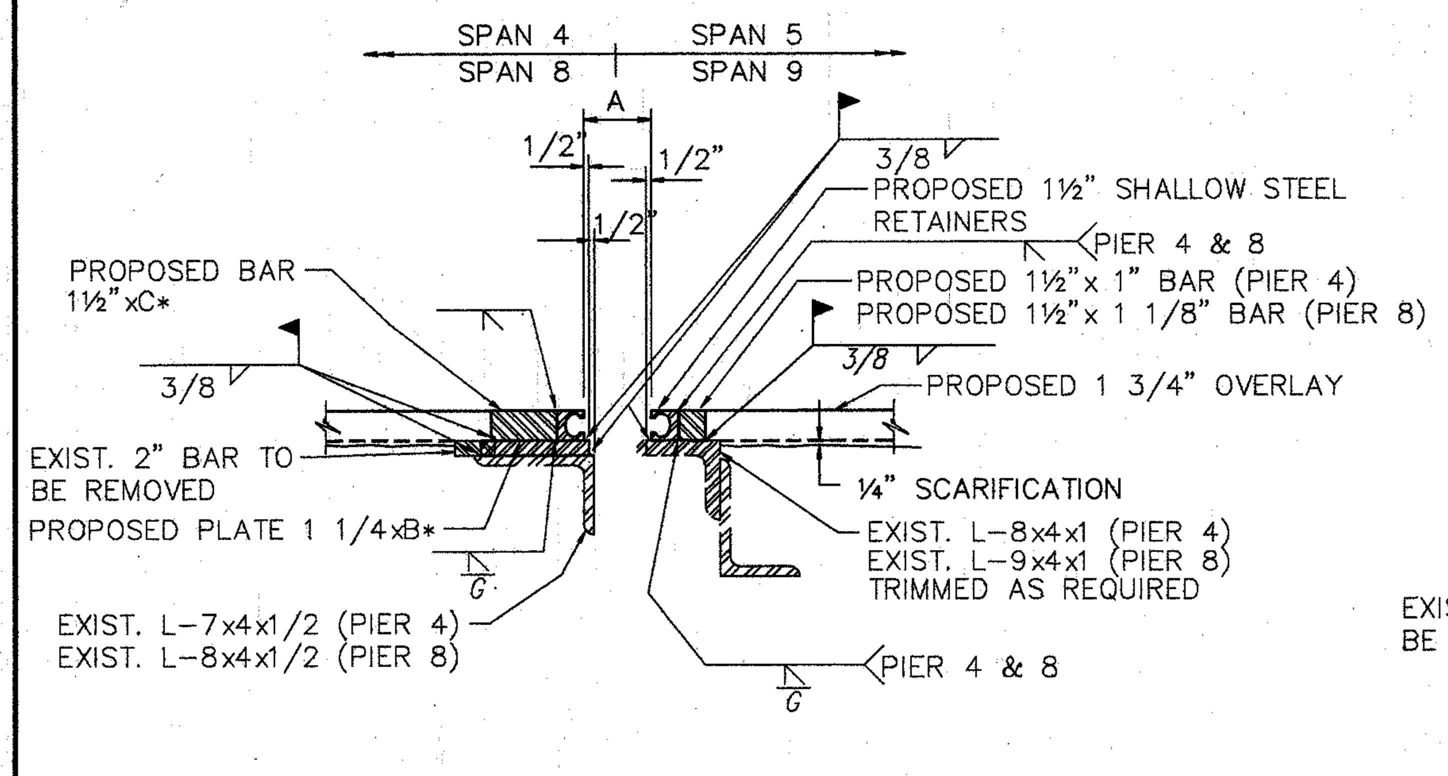
LEFT PARAPET OPPOSITE HAND



SECTION Q-Q

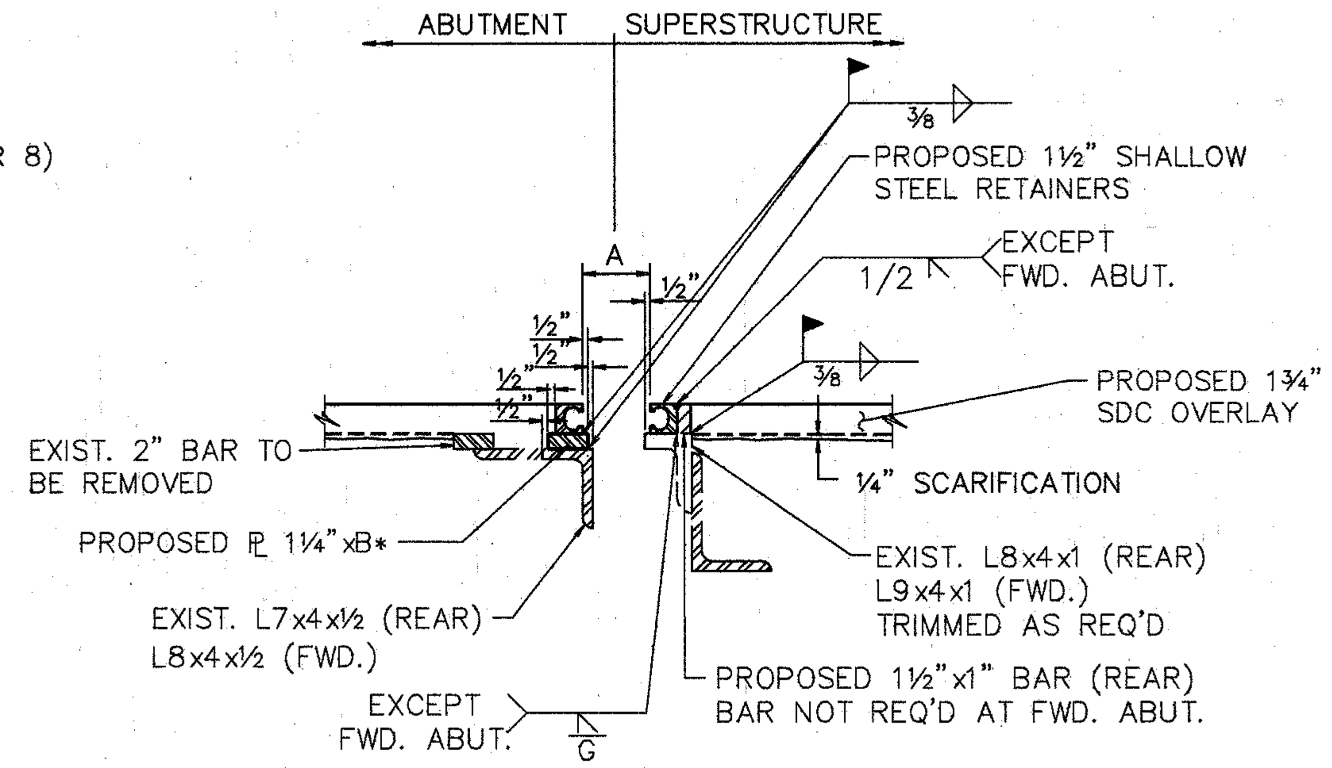


SECTION L1-L1



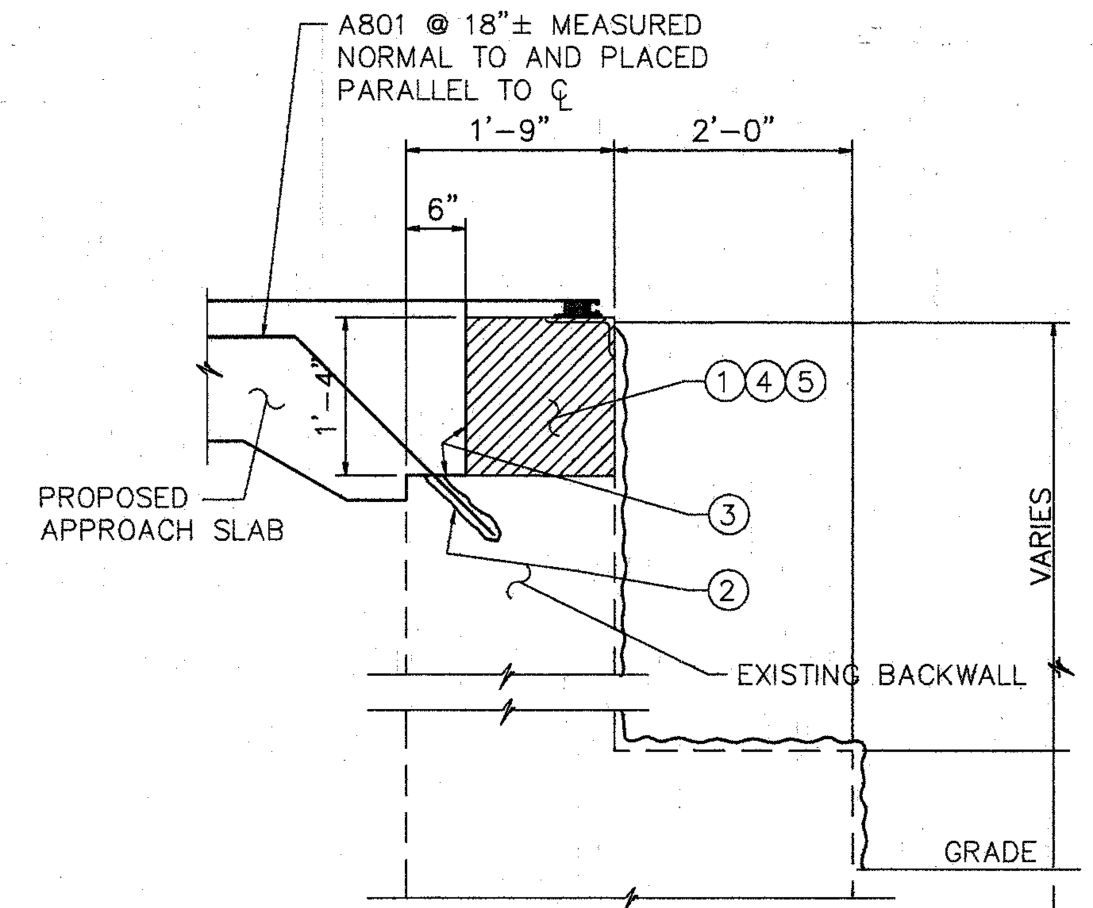
B* = ANGLE LEG MINUS 1"
C* = B* MINUS WIDTH OF RETAINER MINUS 1"

SECTION J1-J1



B* = RETAINER PLUS 1"

SECTION J-J



SECTION L-L

NOTES FOR SECTION L-L & L1-L1

① EXISTING REINFORCING STEEL TO REMAIN ~ REINFORCING STEEL DAMAGED TO BE REPLACED AT CONTRACTORS EXPENSE.

② 1' MIN. EMBEDMENT (SEE DOWEL HOLE GENERAL NOTE) ITEM 510.

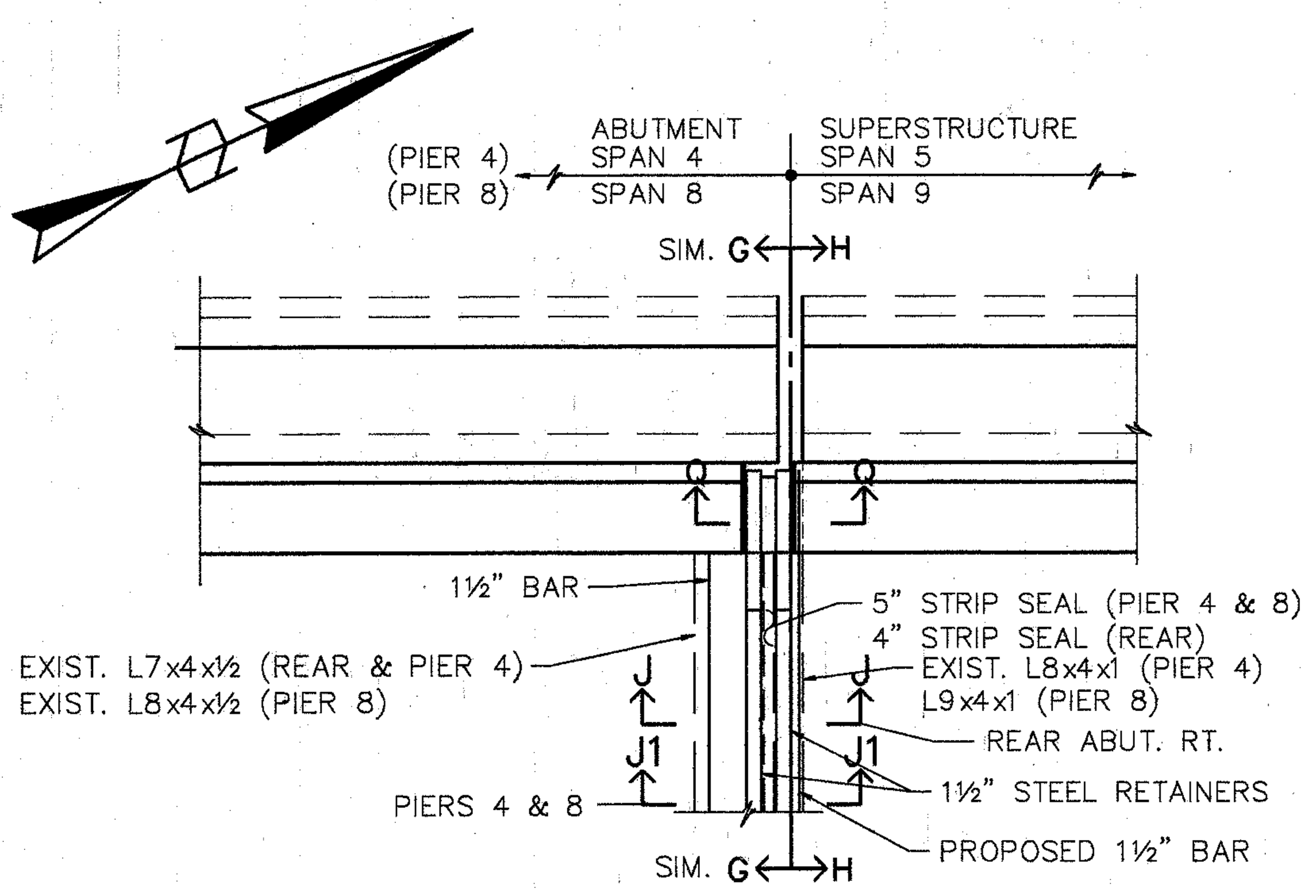
③ TYPE 'A' WATERPROOFING (PAYMENT INCLUDED IN THE PRICE BID FOR APPROACH SLAB).

④ CLASS 'C' CONCRETE, ABUTMENT RECONSTRUCTION.

⑤ PROVIDE CONTRACTION AND EXPANSION JOINTS TO MATCH THOSE IN EXISTING BACKWALL AND PROVIDE CONSTRUCTION JOINTS AS REQUIRED TO MAINTAIN TRAFFIC. PAYMENT TO BE INCLUDED IN PRICE BID FOR ITEM 511 CLASS C CONCRETE RECONSTRUCTION.

EXISTING CONCRETE TO BE REMOVED INCLUDE IN ITEM 202 FOR PAYMENT.

SURFACE TO BE SEALED UNDER ITEM SPECIAL- 'SEALING OF CONCRETE SURFACE, EPOXY'.



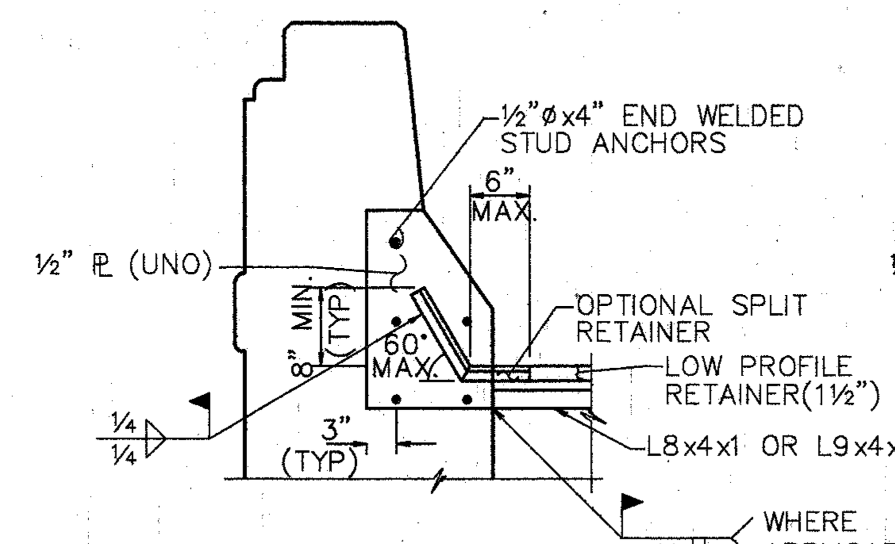
PART PLAN @ PIERS 4 & 8 & REAR ABUT. - RIGHT

LEFT - (SHOWN) RIGHT - (SIM. OPPOSITE HAND)

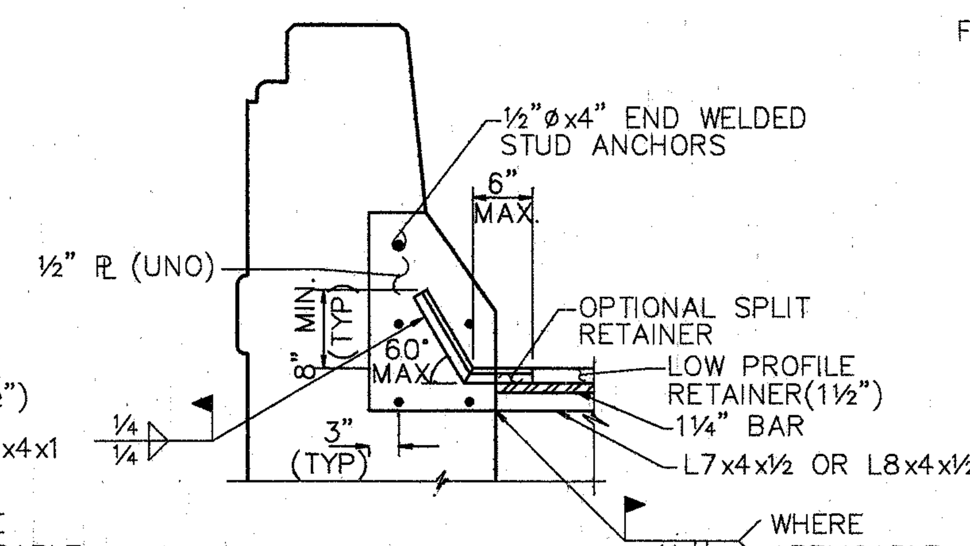
NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO MODIFYING EXPANSION JOINT.
2. THE PRICE BID FOR ITEM 516-'STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS, SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY OTHER INCIDENTIAL ITEMS, AS DETAILED. (REMOVAL OF CURB OR PARAPET AS SHOWN SHALL BE INCLUDED UNDER ITEM 202- 'PORTIONS OF STRUCTURE REMOVED').
3. FOR DETAILS NOT SHOWN REFER TO DWG. EXJ-4-87 SHTS. 3 AND 4.
4. STRIP SEAL TO BE INSTALLED IN ONE CONTINUOUS PIECE (NO OPEN JOINTS).
5. PROVIDE TEMPORARY SUPPORT FOR ABUTMENT END DAM DURING CONSTRUCTION. REMOVE TEMPORARY SUPPORT AS SOON AS CONCRETE HAS SET, PREFERABLY WITHIN TWO HOURS AFTER PLACING TO AVOID DAMAGE DUE TO EXPANSION AND CONTRACTION OF SUPERSTRUCTURE.

TEMPERATURE	DIM. 'A'			
	FORWARD	REAR	PIER 4	PIER 8
40° F	3⅝"	3"	3⅝"	3¾"
50° F	3⅜"	2⅞"	3½"	3½"
60° F	3⅛"	2¾"	3¼"	3⅛"
70° F	2¾"	2¾"	3"	2⅞"
80° F	2½"	2⅝"	2⅞"	2½"
90° F	2⅛"	2½"	2⅝"	2¼"



SECTION H-H



SECTION G-G

FOR DETAILS AND NOTES NOT SHOWN HERE SEE SHT. 4/9

WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660

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STRIP SEAL EXPANSION JOINTS AT ABUTMENTS

BRIDGE NO. HAM-71-0243 R
OVER EDEN PARK

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	

HAM-71-1.30/9.00 | OHIO | F.H.W.A. REGION 5 | 370/401

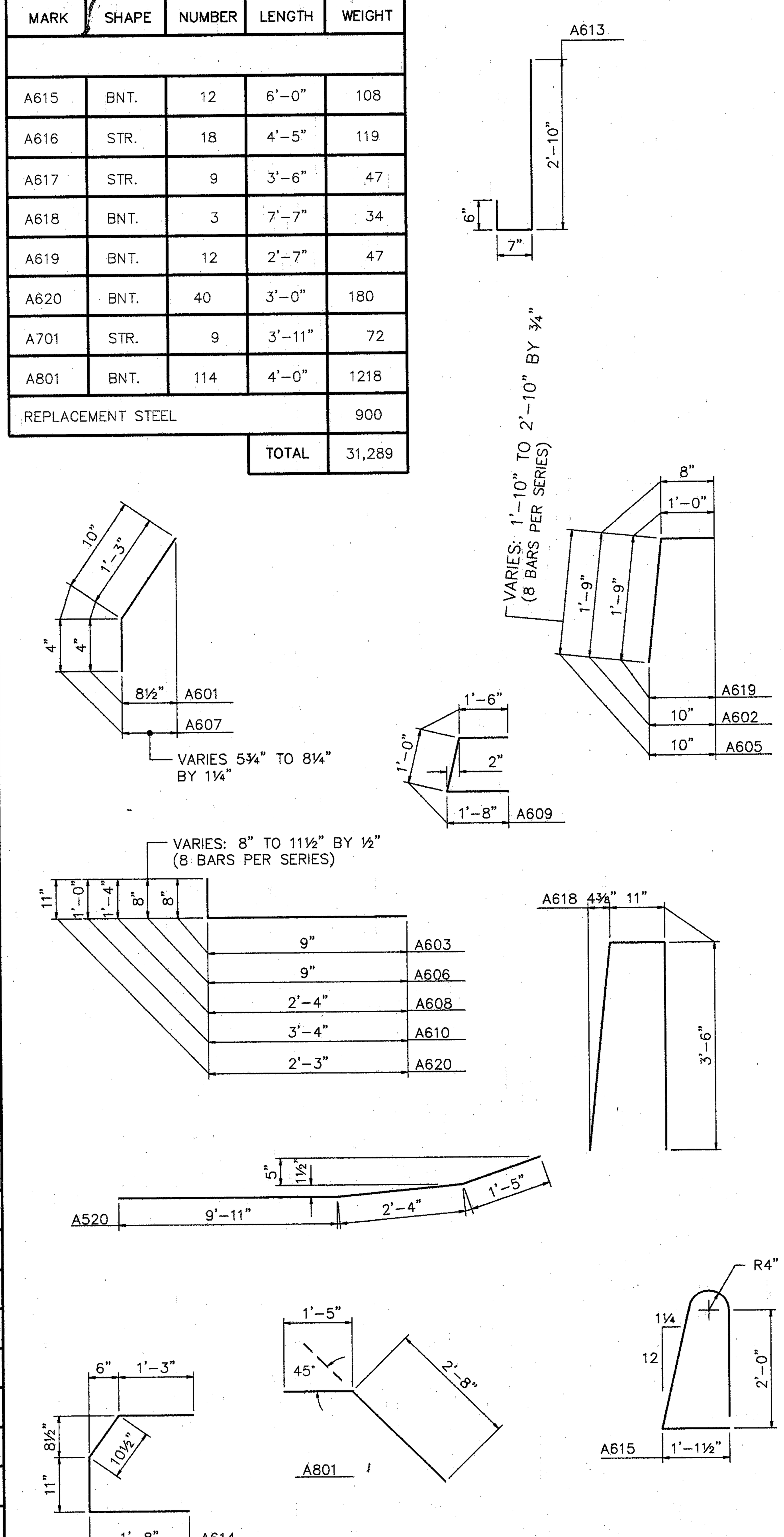
CALC. BY LATM DATE 9-23-92
CHK'D BY DEM DATE 10-4-94

REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A501	STR.	160	30'-0"	5006
A502	STR.	2	13'-3"	28
A503	STR.	2	13'-11"	29
A504	STR.	45	15'-4"	720
A505	STR.	2	12'-4"	26
A506	STR.	6	12'-7"	79
A507	STR.	3	14'-8"	46
A508	STR.	273	15'-7"	4437
A509	BNT.	3	12'-5"	39
A510	BNT.	12	4'-5"	55
A511	STR.	4	11'-5"	48
A512	STR.	90	15'-6"	1455
A513	STR.	10	12'-9"	133
A514	STR.	4	9'-9"	41
A515	STR.	6	6'-11"	43
A516	STR.	6	12'-8"	79
A517	STR.	12	4'-8"	58
A518	STR.	1	5'-0"	5
A519	STR.	1	11'-0"	11
A520	BNT.	2	13'-8"	29
A521	BNT.†	1	13'-8"	14
A522	STR.	4	3'-6"	15
A523	STR.	4	8'-7"	36
A524	STR.	4	12'-0"	50
A601	BNT.	2054	1'-6"	4628
A602	BNT.	2034	2'-5"	7383
A603	BNT.	2034	1'-3"	3819
A604		NOT USED		
A605	BNT.	8	2'-6" TO 3'-6"	36
A606	BNT.	8	1'-3" TO 1'-6"	17
A607	BNT.	3	1'-2"	6
A608	BNT.	3	3'-6"	16
A609	BNT.	1	3'-10"	6
A610	BNT.	2	4'-2"	13
A611	STR.	3	1'-2"	5
A612		NOT USED		
A613	BNT.	12	3'-7"	65
A614	BNT.	12	4'-4"	78

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A615	BNT.	12	6'-0"	108
A616	STR.	18	4'-5"	119
A617	STR.	9	3'-6"	47
A618	BNT.	3	7'-7"	34
A619	BNT.	12	2'-7"	47
A620	BNT.	40	3'-0"	180
A701	STR.	9	3'-11"	72
A801	BNT.	114	4'-0"	1218
REPLACEMENT STEEL				900
			TOTAL	31,289

BENT BAR DETAILS



† BEND IN FIELD AS REQUIRED.

ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	L.S.	PORTIONS OF STRUCTURE REMOVED
509	15824	31289	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
510	12201	154	L.F.	DOWEL HOLES, AS PER PLAN
511	34450	5	C.Y.	CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
511	34400	6	C.Y.	CLASS S CONCRETE, SUPERSTRUCTURE, RECONSTRUCTION
511	45700	12	C.Y.	CLASS C CONCRETE, ABUTMENT RECONSTRUCTION
SPECIAL	51267500	3088	S.Y.	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	682	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
513	15501	1550	LBS.	STRUCTURAL STEEL (MISC. AND CASTINGS), AS PER PLAN
513	21000	4	EACH	TRIMMING OF BEAM END
516	14600	25	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2"x4" SEALER, AS PER PLAN
514	27704	LUMP	L.S.	FIELD PAINTING, MISC: EXISTING STEEL, EEU *
516	11210	338	L.F.	STRUCTURAL EXP. JT. ELASTOMERIC STRIP SEAL
516	45304	58	EACH	REFURBISH BEARING DEVICE
516	45307	15	EACH	REFURBISH BEARING DEVICE, AS PER PLAN
517	76201	2310	L.F.	RAILING FACED, AS PER PLAN
516	14600	235	L.F.	SEAL JOINT BETWEEN ABUTMENT AND CONCRETE SLOPE PROTECTION
518	63300	LUMP SUM	L.S.	STRUCTURE DRAINAGE, MISC: MODIFY DRAINAGE PIPING
SPECIAL	51912600	20	L.F.	EPOXY INJECTION *, CONCRETE REPAIR
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
601	21100	8	S.Y.	REPAIR CONCRETE SLOPE PROTECTION
625				FOR LIGHTING SUMMARY SEE LIGHTING PLANS.
SPECIAL	53000400	120	EACH	STRUCTURE MISC: LATERAL BRACING GUSSET PLATE RETROFIT(INTERMEDIATE).
845	40210	10400	S.Y.	LATEX MODIFIED CONCRETE MISC. OVERLAY (1¾" THICK) ON EXISTING DECK
845	11000	101	C.Y.	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)
845	30000	2	C.Y.	FULL DEPTH REPAIR

* SEE PROPOSAL NOTE

PROPOSED WORK

1. MODIFY PARAPETS ON THE SUPERSTRUCTURE & ABUTMENTS. SEAL PARAPETS AS SHOWN ON PLANS. (REMOVE PORTION OF ABUTMENT PARAPETS AND BRIDGE DECK TO ALLOW APPROPRIATE CLEARANCES FOR THE STRIP SEAL INSTALLATION. INSTALL PLATES FOR THE STRIP SEAL EXPANSION JOINT WHEN POURING SLAB EXTENTIONS. CAP ABUTMENT WALL AT REMOVAL LOCATION. INSTALL METAL CONDUIT EXPANSION ASSEMBLY HL-30.31)
2. SCARIFY EXISTING DECK ¼", AND REMOVE DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER.
3. REFURBISH ABUTMENT BEARINGS.
4. CLEAN AND REPAINT BEAMS AS DIRECTED.
5. REPAIR SHORT COLUMNS SUPPORTING BEAMS. PREPARE, PRIME AND PAINT SURFACES IN THIS AREA.
6. PLACE 1¾" THICK LATEX MODIFIED CONCRETE ON DECK.
7. SEAL JOINTS AS NOTED.
8. SEAL EXPANSION JOINT WITH STRIP SEAL.
9. REPLACE GUARDRAIL AS SHOWN ON ROADWAY PLANS.
10. REPAIR BACKWALL CRACKS WITH EPOXY INJECTION.
11. REFURBISH DRAINAGE PIPING.
12. TRIM BEAM ENDS.
13. RETROFIT LATERAL BRACING. FOR DETAILS SEE SHEETS 401A/401 THRU 401A/401.
14. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION AND ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTAINANCE OF TRAFFIC PLANS. MAINTENANCE OF TRAFFIC PLAN REQUIRES CONSTRUCTION PHASING LIMITS AT LANE CENTERLINES. DUE TO THESE LIMITS, OVERLAY MAY REQUIRE SPECIAL ATTENTION.
15. OTHER WORK AS DESCRIBED IN THESE PLANS.

WOOLPERT CONSULTANTS
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DAYTON, OHIO 45402-1226
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QUANTITIES AND GENERAL NOTES

BRIDGE NO. HAM-71-0243 R
OVER EDEN PARK

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	DEM 11/11/94	

1. For drainage piping requirements see General Notes on sht. 273/401

2. Approximate Nº of Feet of proposed 8"ϕ pipe (including specials) = 330'

WOOLPERT CONSULTANTS
409 East Monument Avenue
Dayton, Ohio 45402-1226

7/9

DRAINAGE DETAILS

BRIDGE NO. HAM-71-0243R
OVER EDEN PARK ENTRANCE
AND FLORENCE AVE.

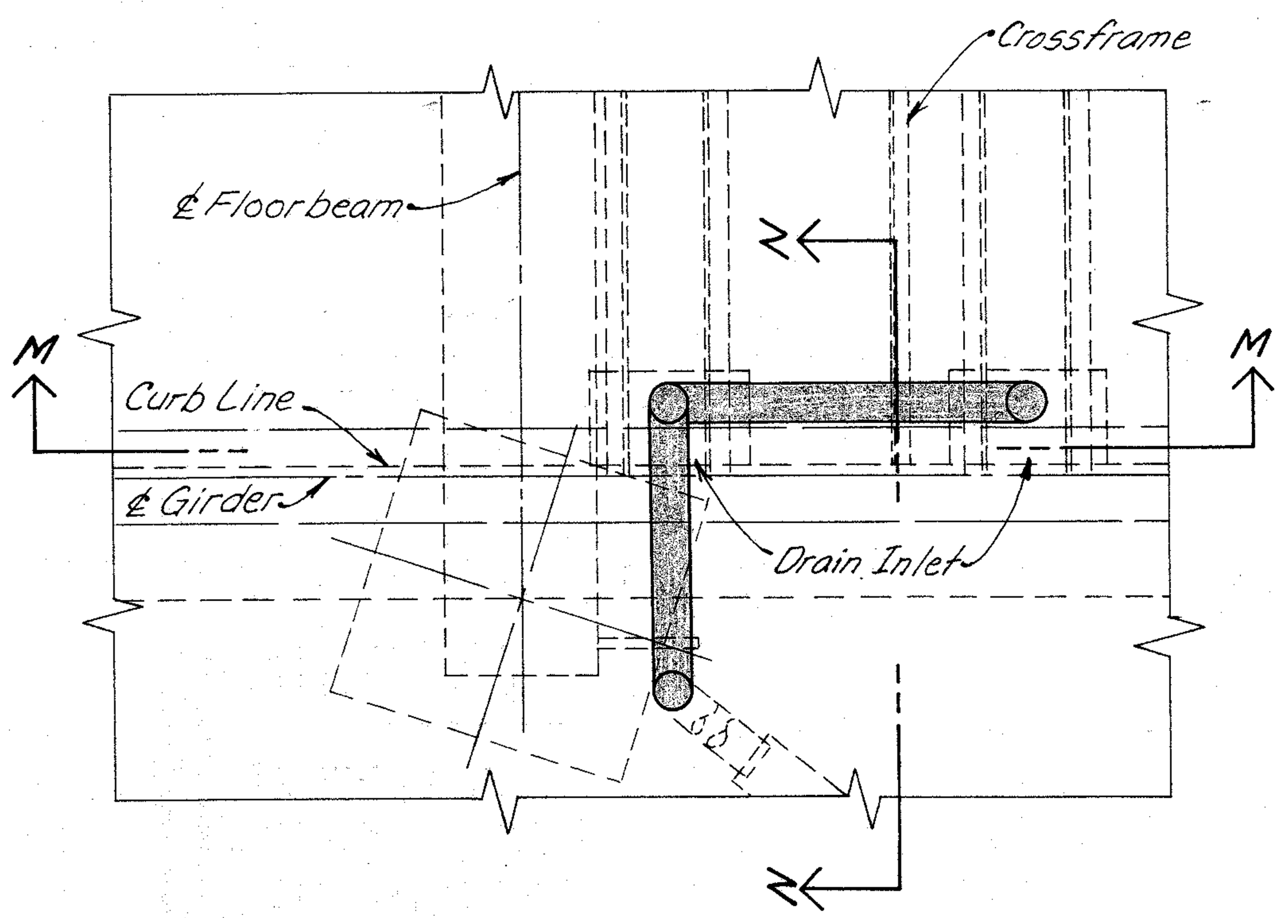
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	L.A.P.		D.E.M.	P.W.G.	11/11/94	

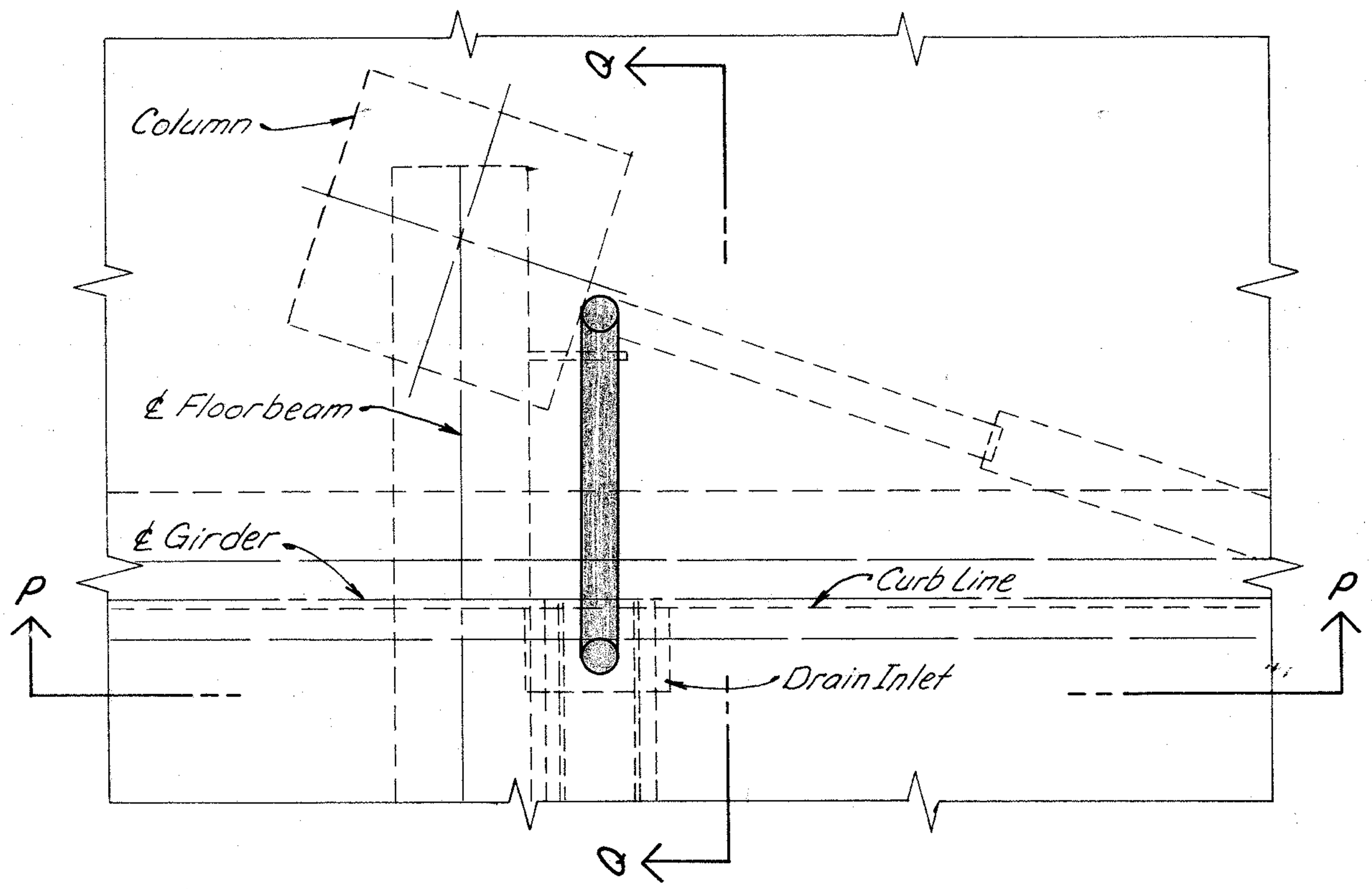
F.H.W.A. REGION	STATE	PROJECT	
5	OHIO		

372/401

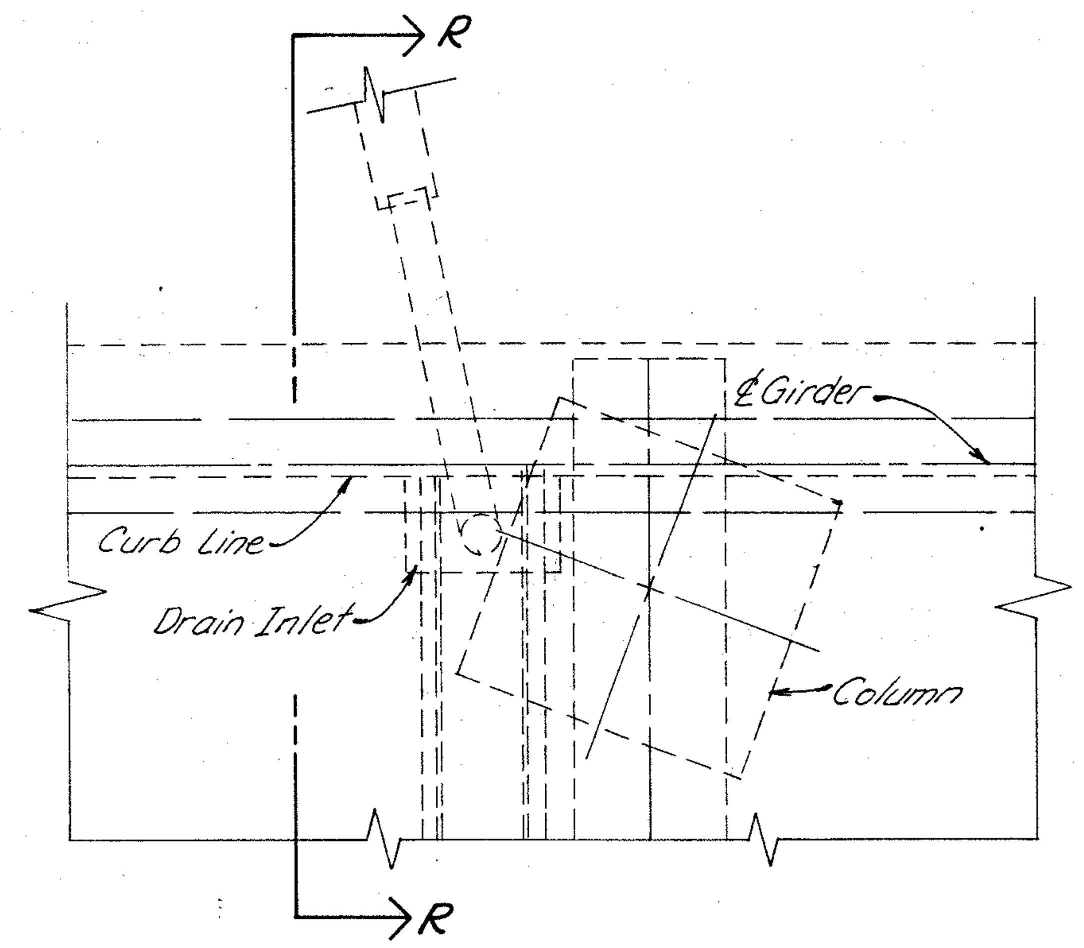
HAM-71-1.30/9.00



PLAN FOR DRAIN INLET AT EAST SIDE OF PIER 11

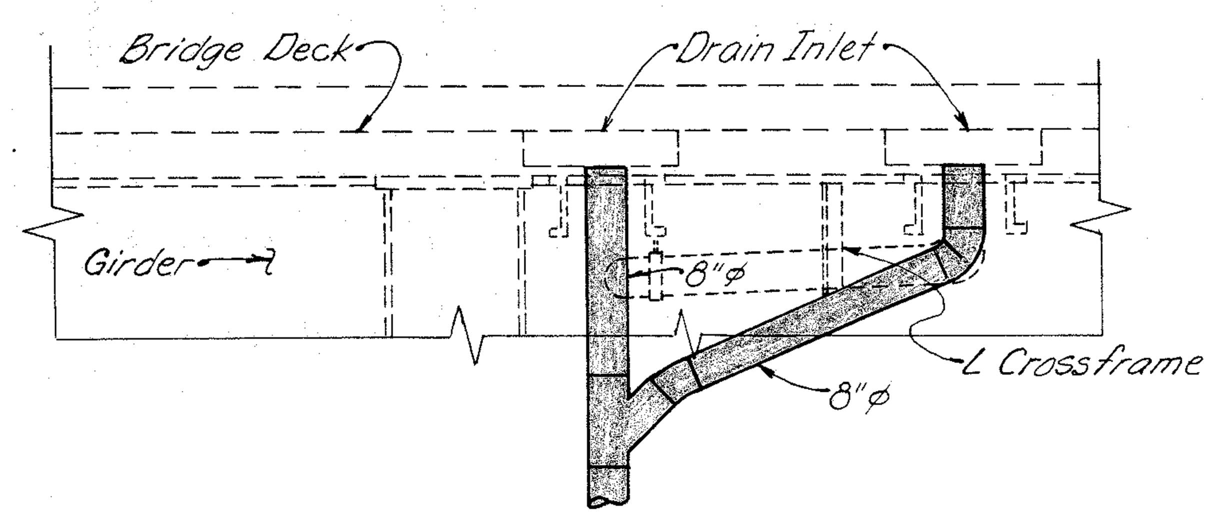


PLAN FOR DRAIN INLET AT WEST SIDE OF PIER 10 & 11

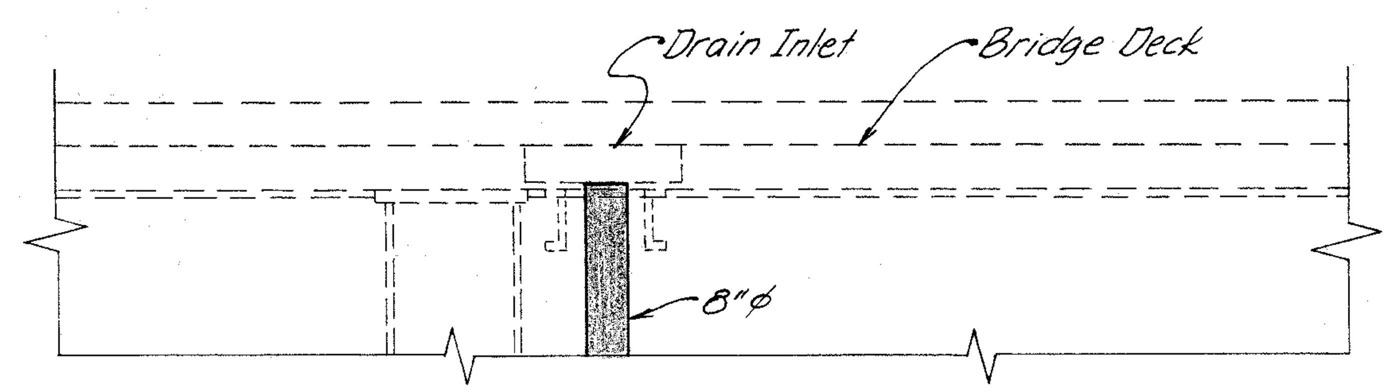


PLAN FOR DRAIN INLET AT WEST SIDE OF PIER 12

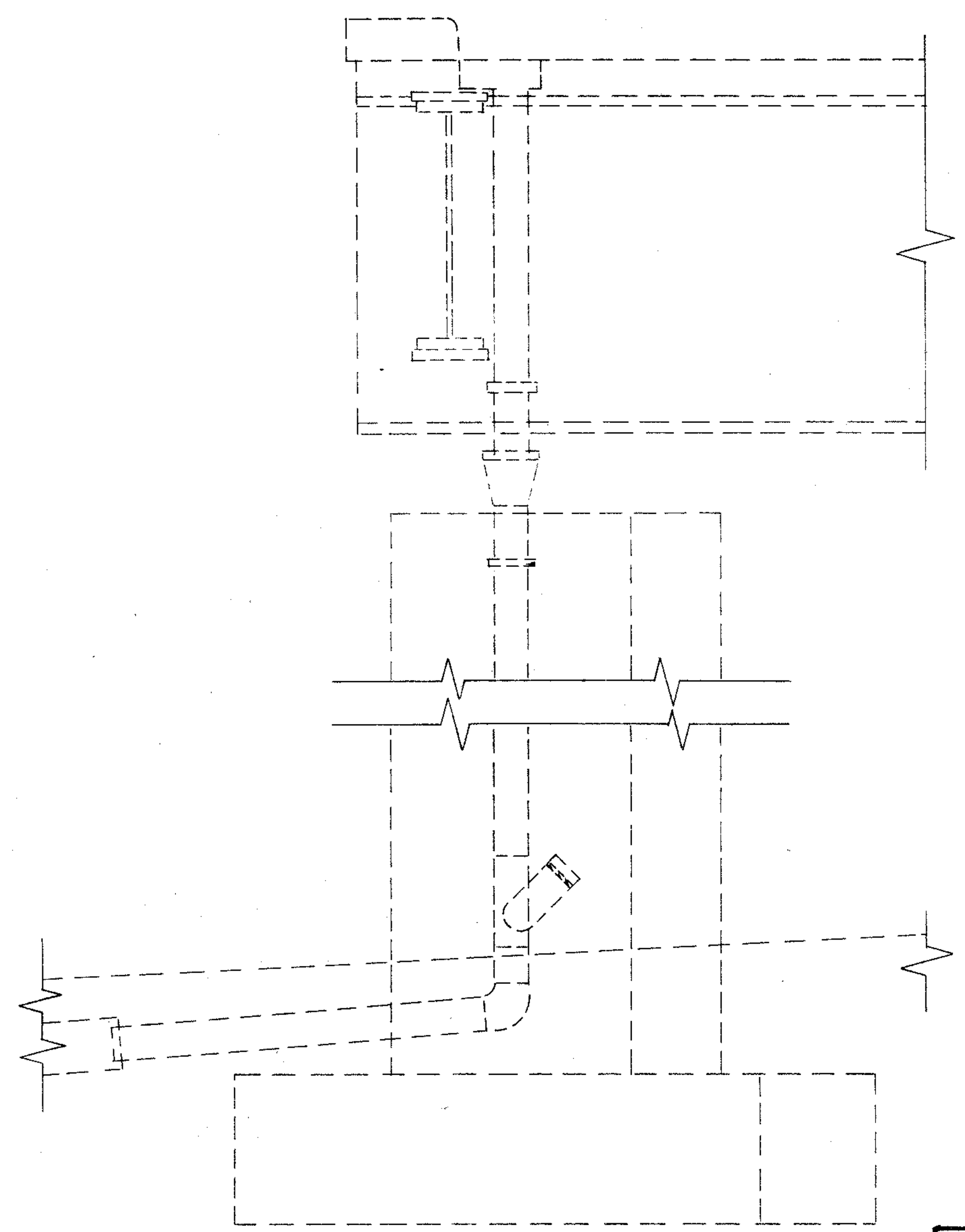
-NO WORK REQUIRED-



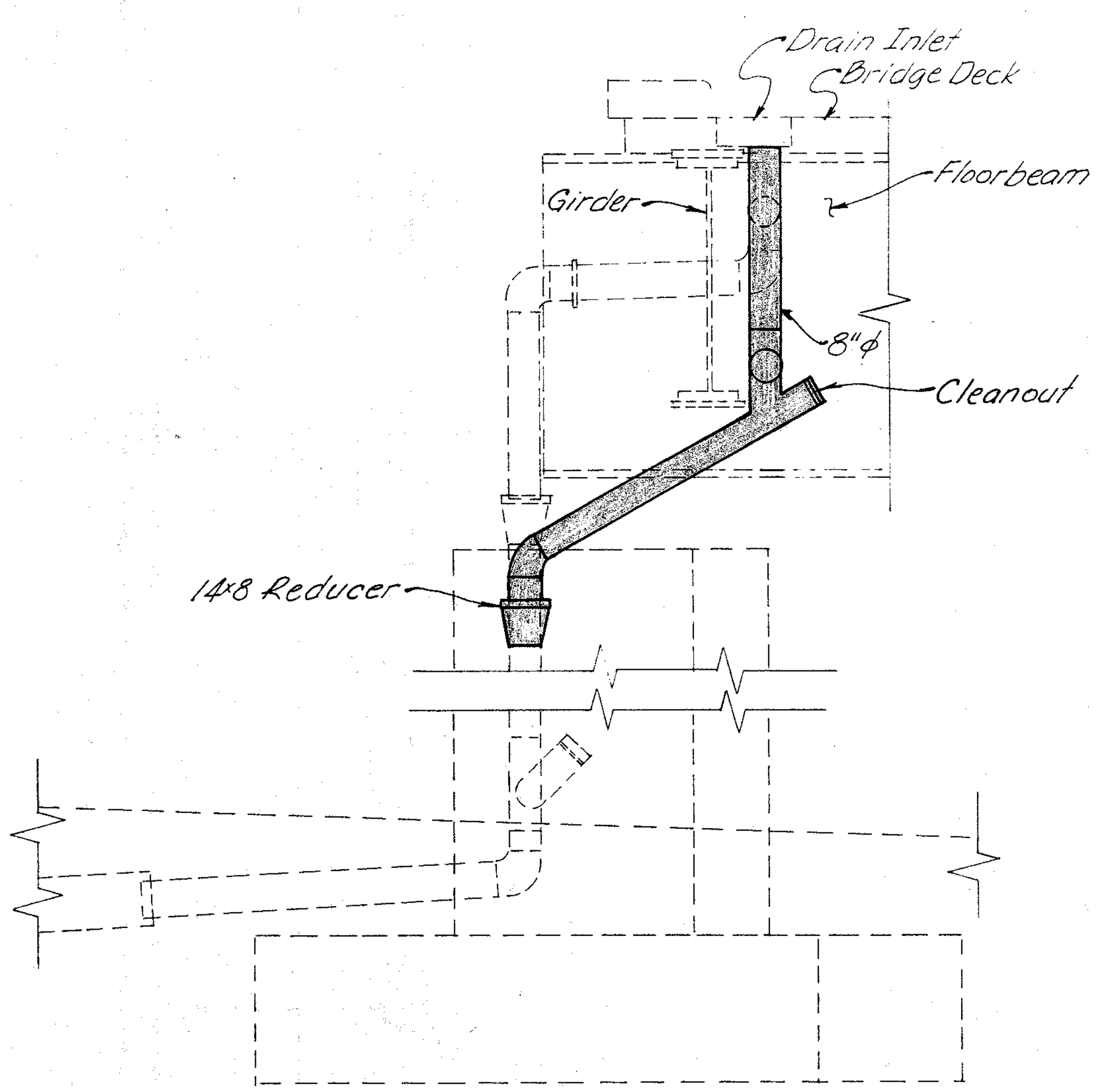
SECTION M-M



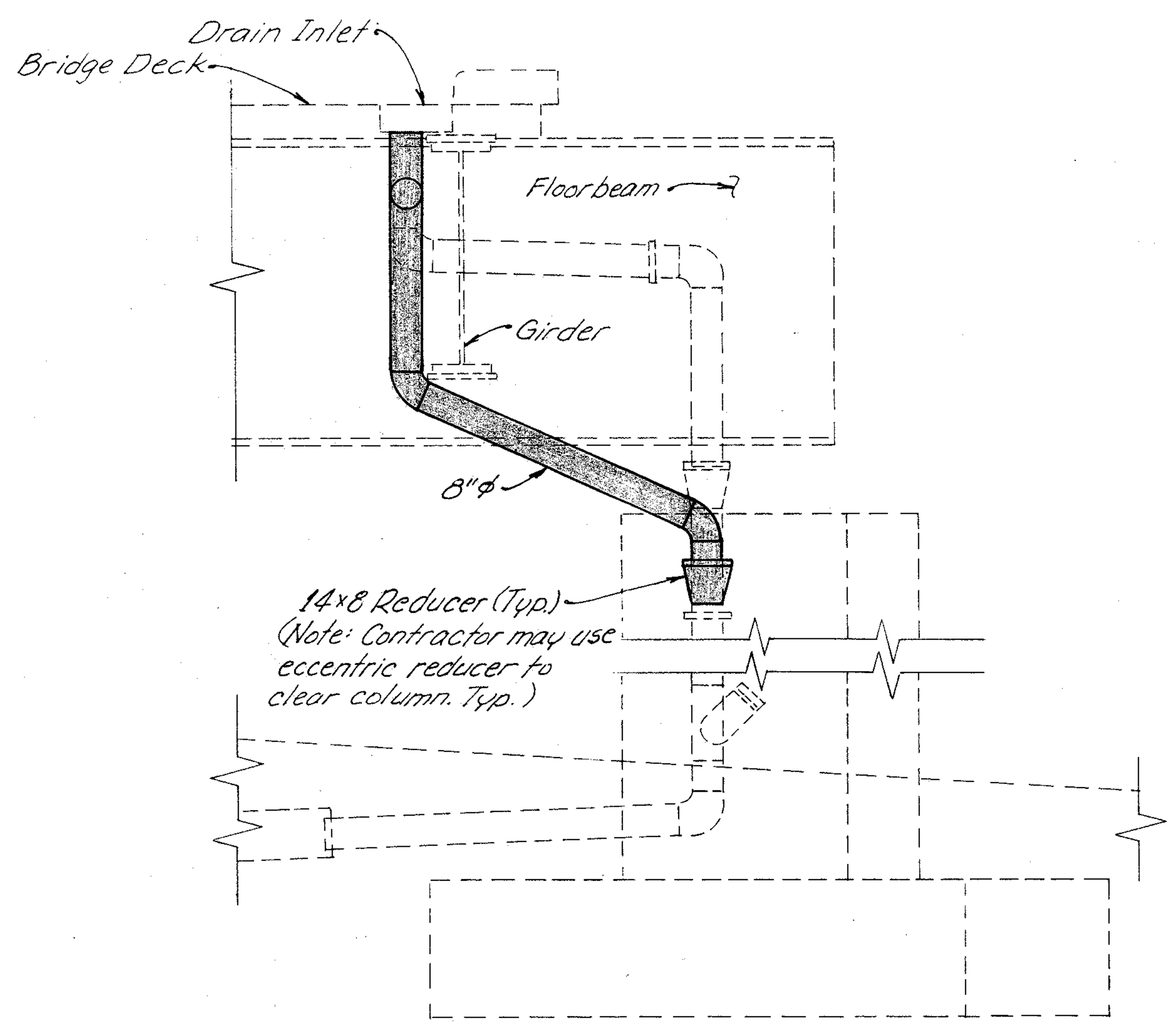
SECTION P-P



SECTION R-R



SECTION N-N



SECTION Q-Q

For Notes see sht. 7/9

8/9

WOOLPERT CONSULTANTS
409 East Monument Avenue
Dayton, Ohio 45402-1226

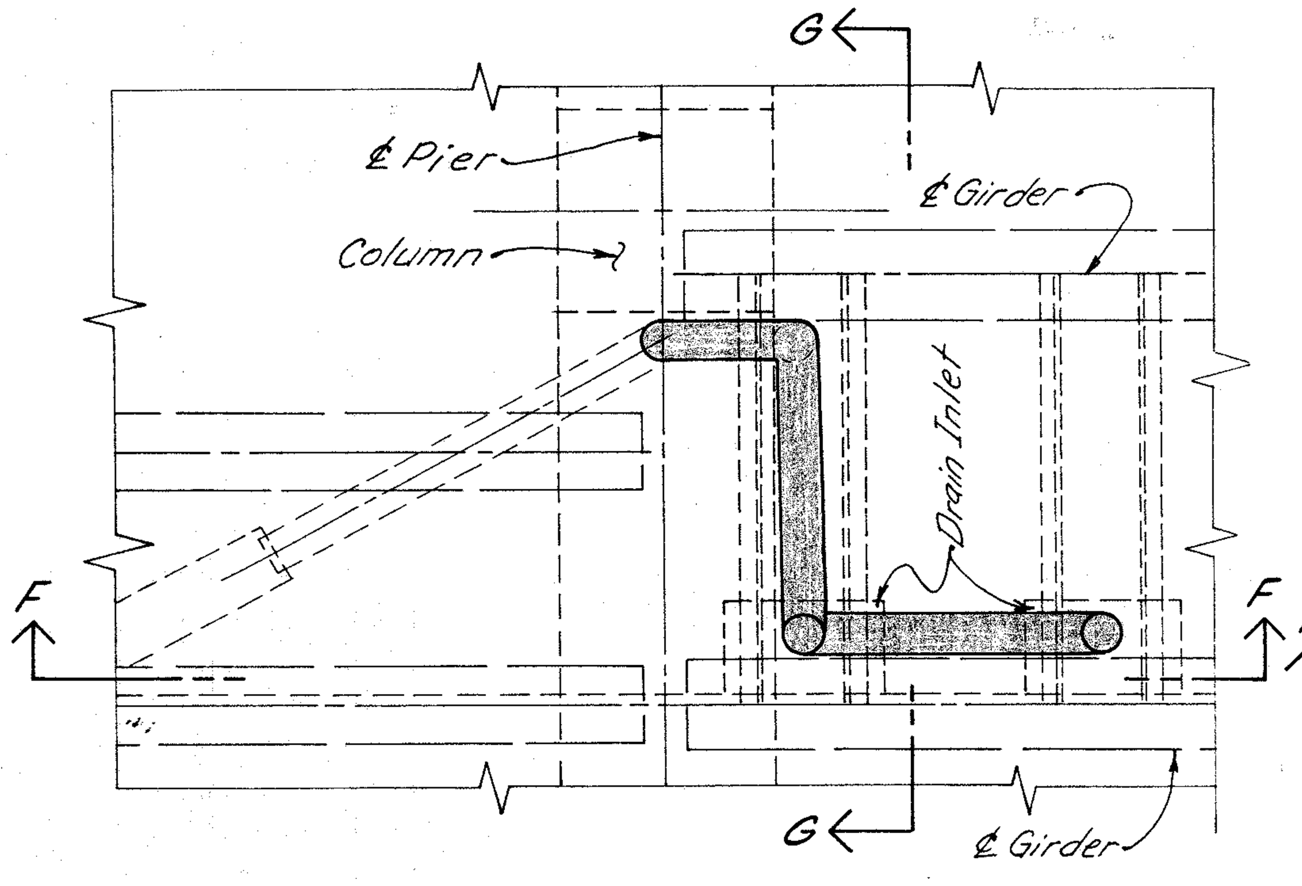
DRAINAGE DETAILS

BRIDGE NO. HAM-71-0243 R
OVER EDEN PARK ENTRANCE
AND FLORENCE AVE.

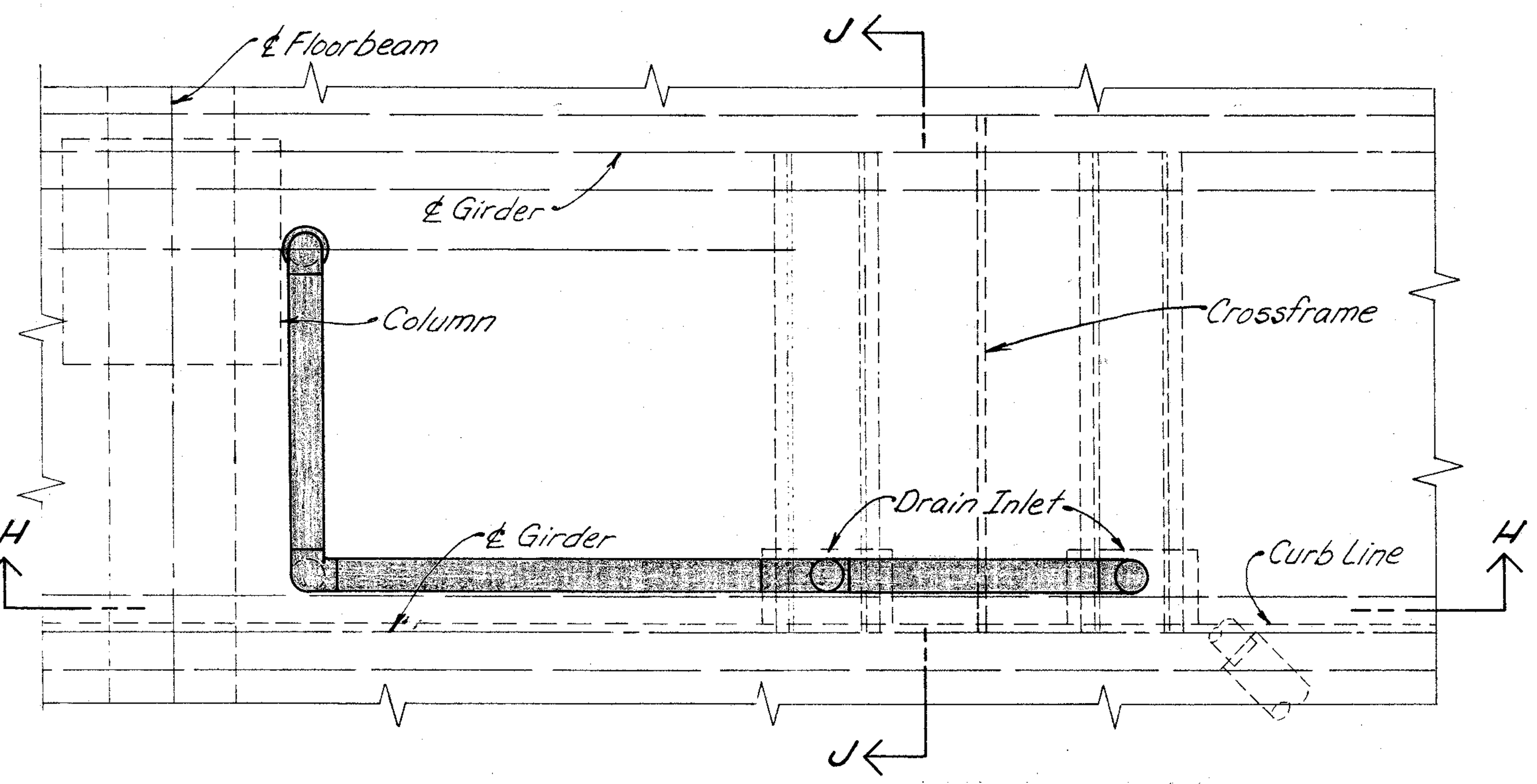
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	L.A.P.		D.E.M.	P.W.G.	11/11/94	

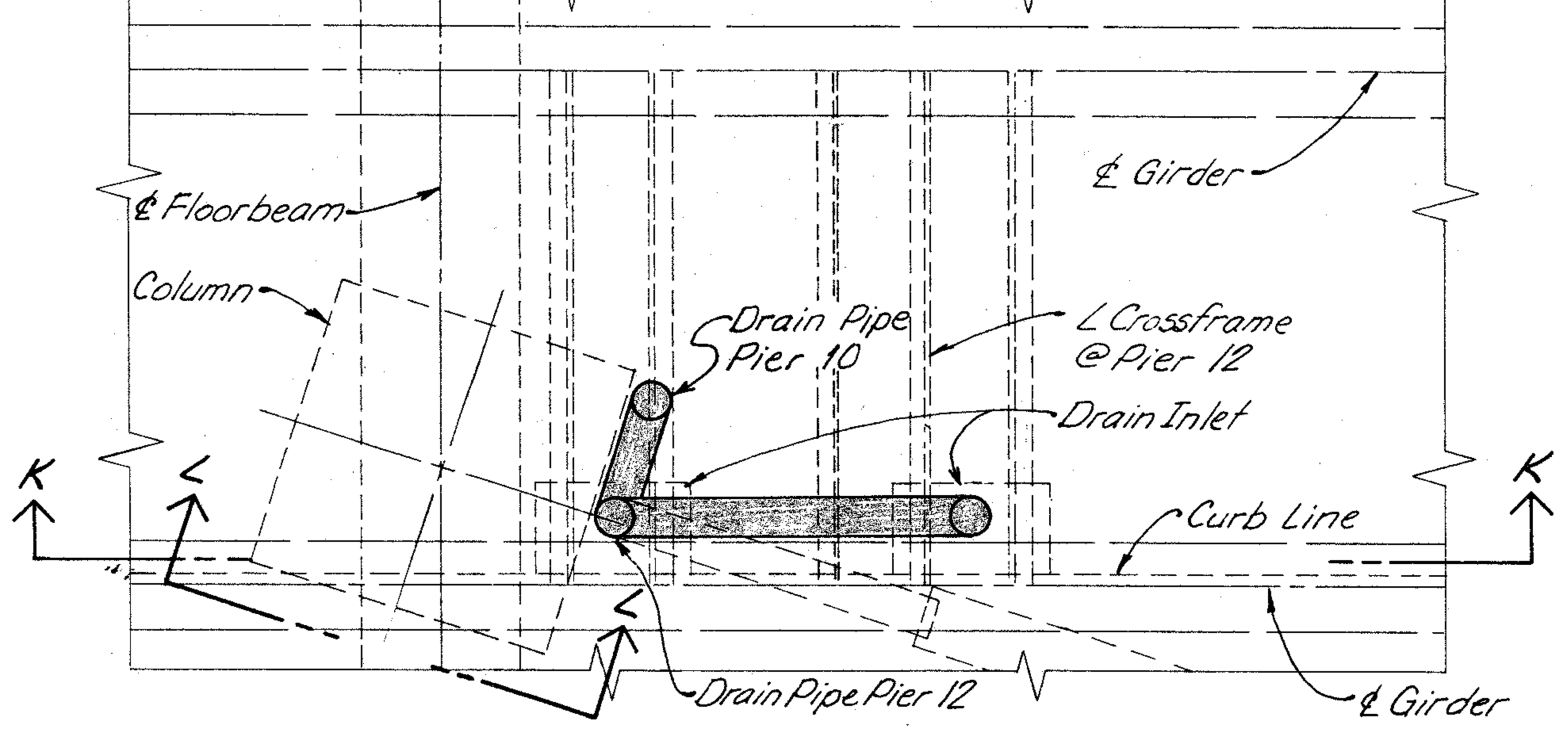
MEDIA RESOURCES CORP



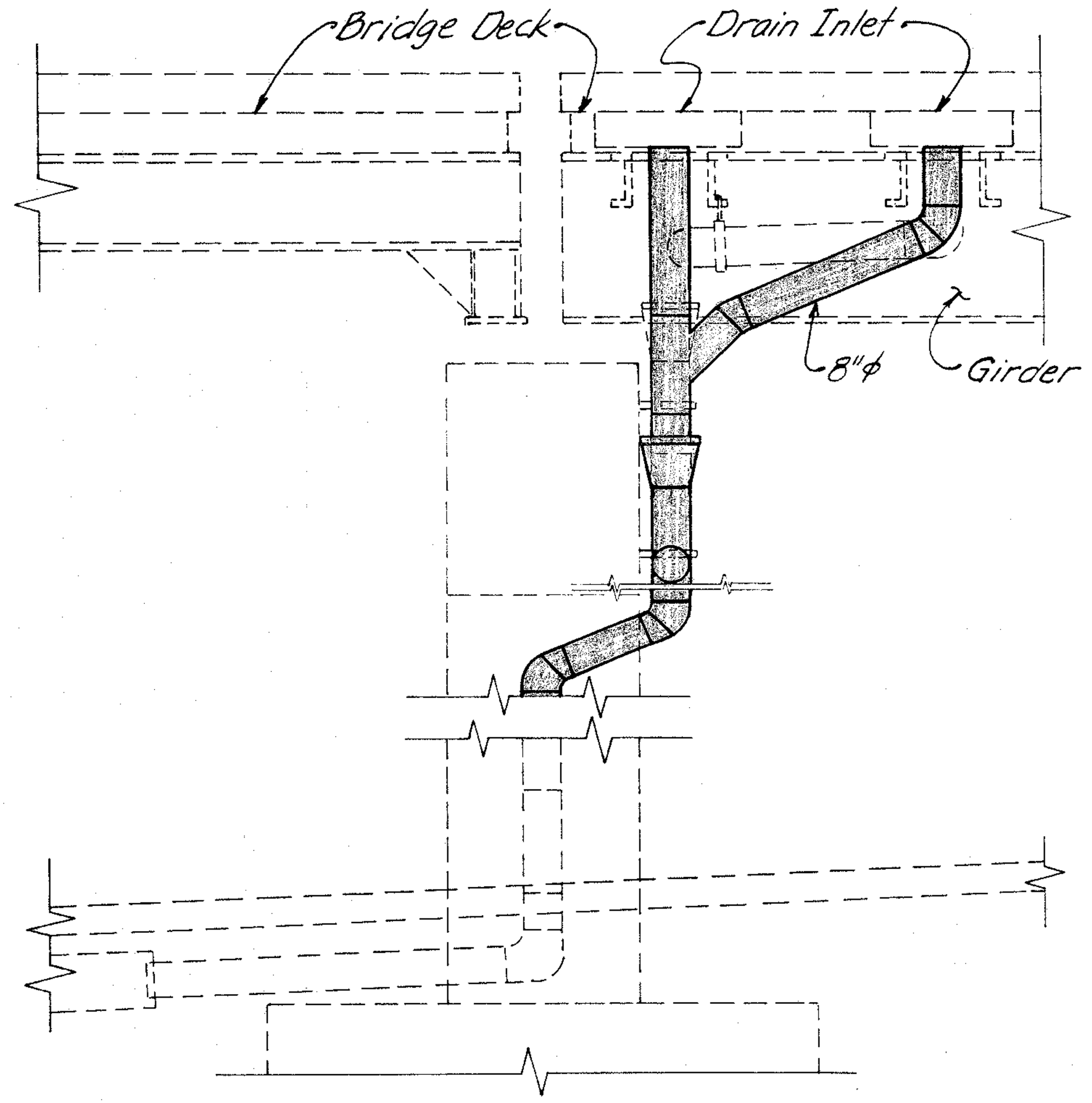
PLAN FOR DRAIN INLET AT PIER 8



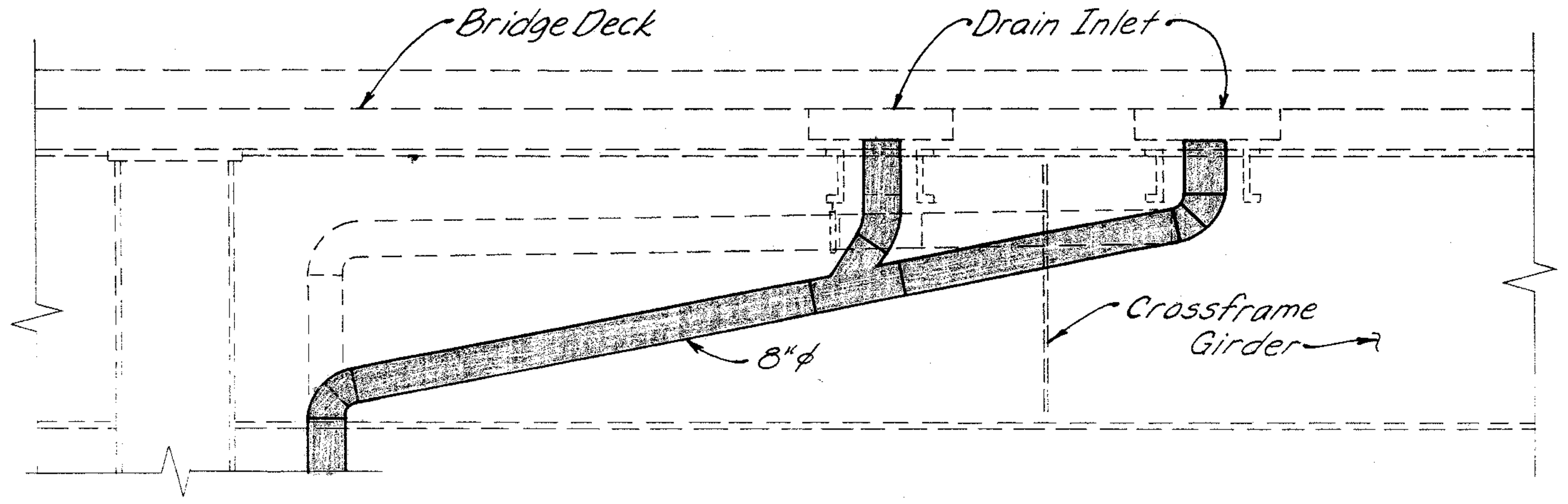
PLAN FOR DRAIN INLET AT PIER 9



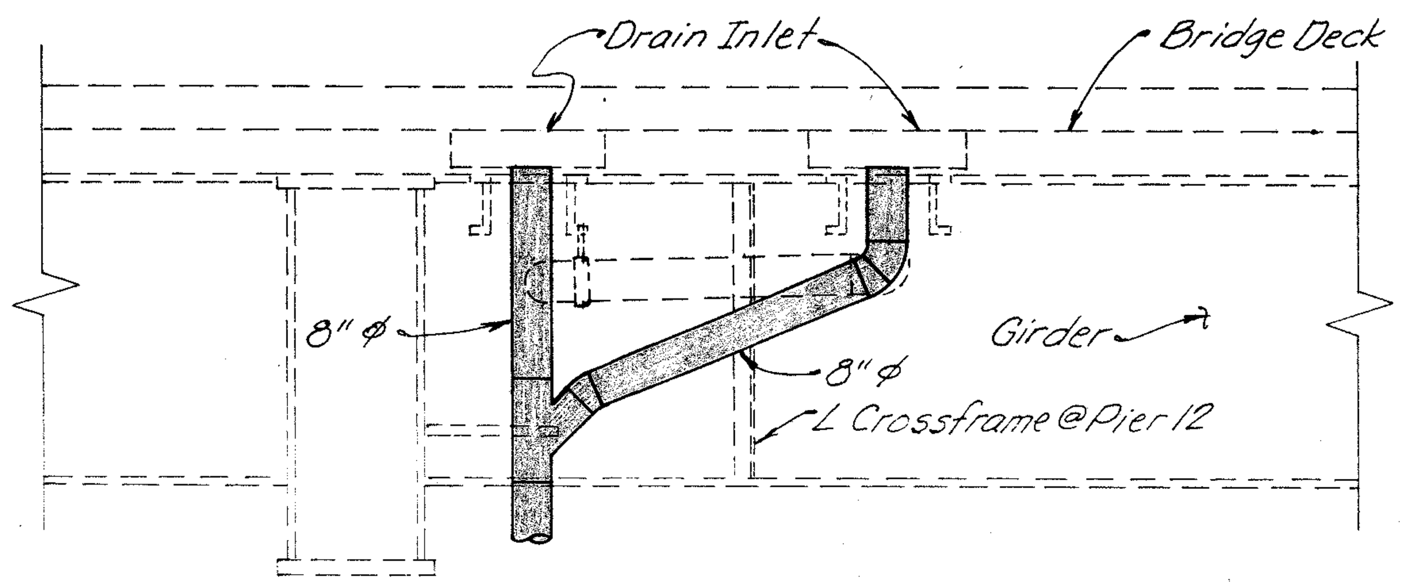
PLAN FOR DRAIN INLET AT EAST SIDE OF PIER 10 & 12



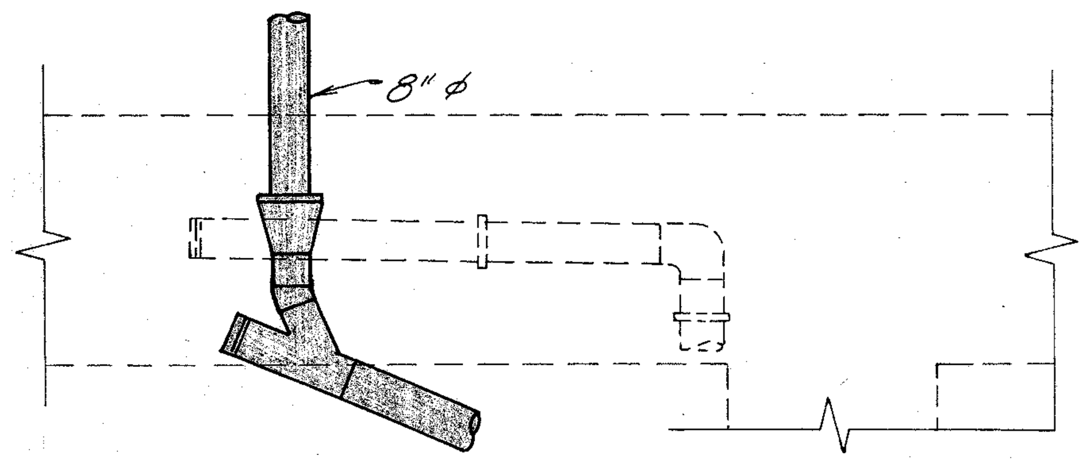
SECTION F-F



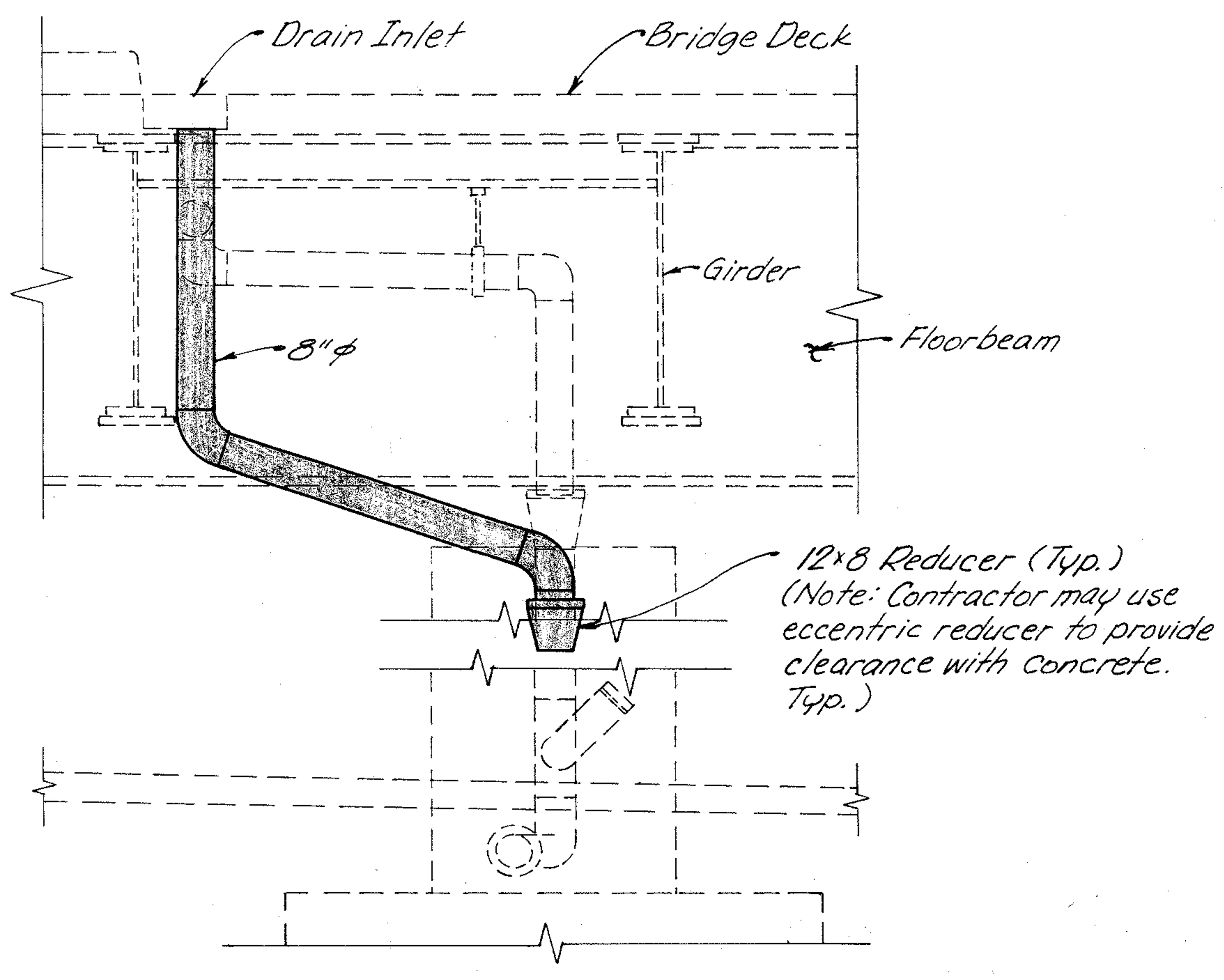
SECTION H-H



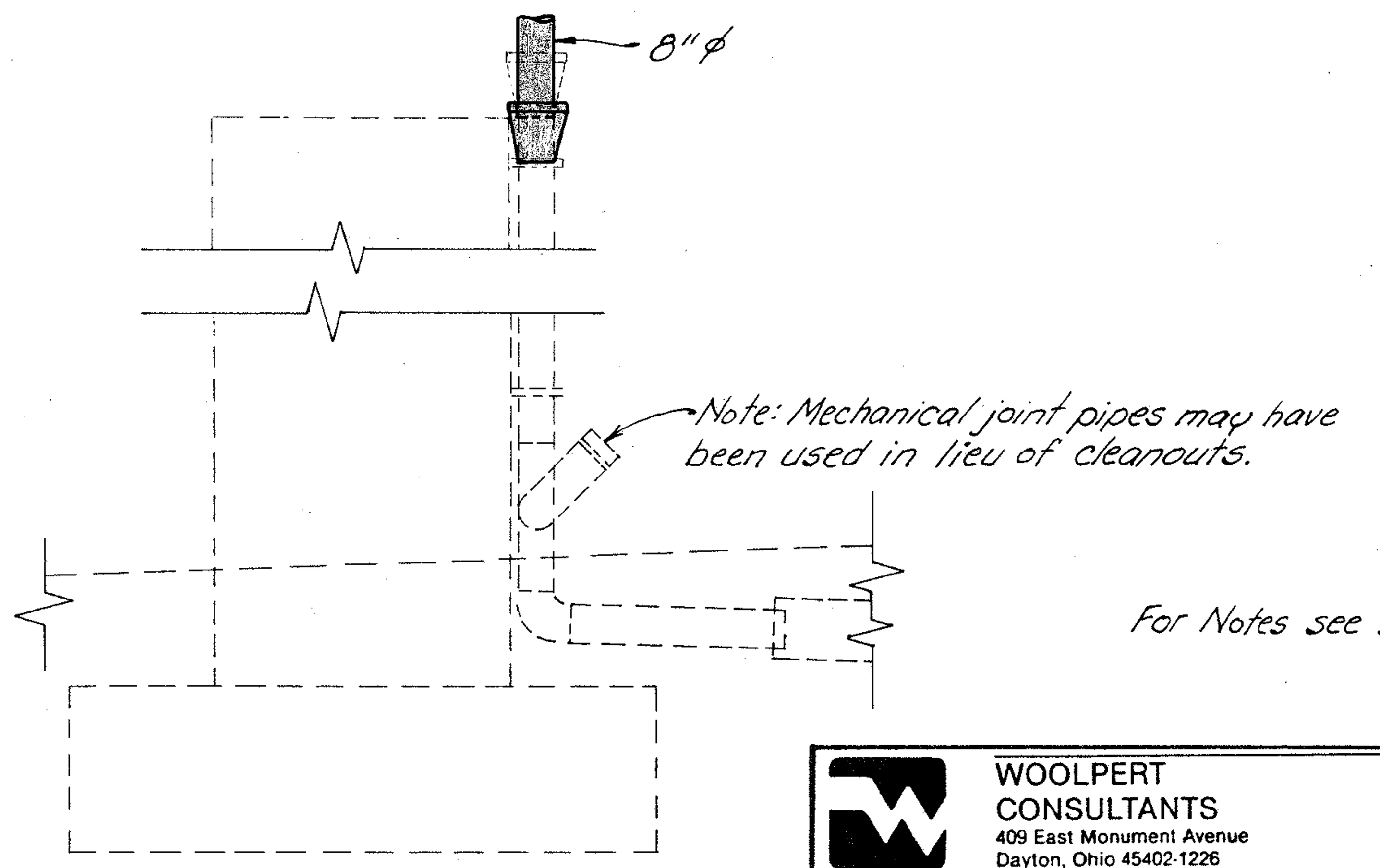
SECTION K-K



SECTION G-G



SECTION J-J



SECTION L-L

For Notes see sht. 7/9

WOOLPERT CONSULTANTS
409 East Monument Avenue
Dayton, Ohio 45402-1226

9/9

DRAINAGE DETAILS

BRIDGE NO. HAM-71-0243 R
OVER EDEN PARK ENTRANCE
AND FLORENCE AVE.

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	L.A.P.		D.E.M.	P.W.G.	11/11/94	

CALC. BY:	HAM-71-1.30/9.00	OHIO	373A / 401
DATE: CHKD. BY: DATE:	HAMILTON COUNTY	FHWA REGION 5	

ITEM SPECIAL - LATERAL BRACING GUSSET PLATE RETROFIT UPGRADE

This work shall consist of the following sequence of operations performed on one lateral bracing gusset plate:

1. Drill the two 3 inch or six 2 inch vertical holes through the gusset plate removing the gusset plate to web and gusset plate to stiffener fillet welds at the locations without gouging the web or stiffener. See retrofit details contained herein. If the bolts are found to interfere with the retrofit, the bolts may be removed prior to drilling and replaced after the retrofit is performed.

2. Drill the two 3 inch or six 2 inch vertical holes through the gusset plate removing the outside corners of the gusset plate without gouging the web.

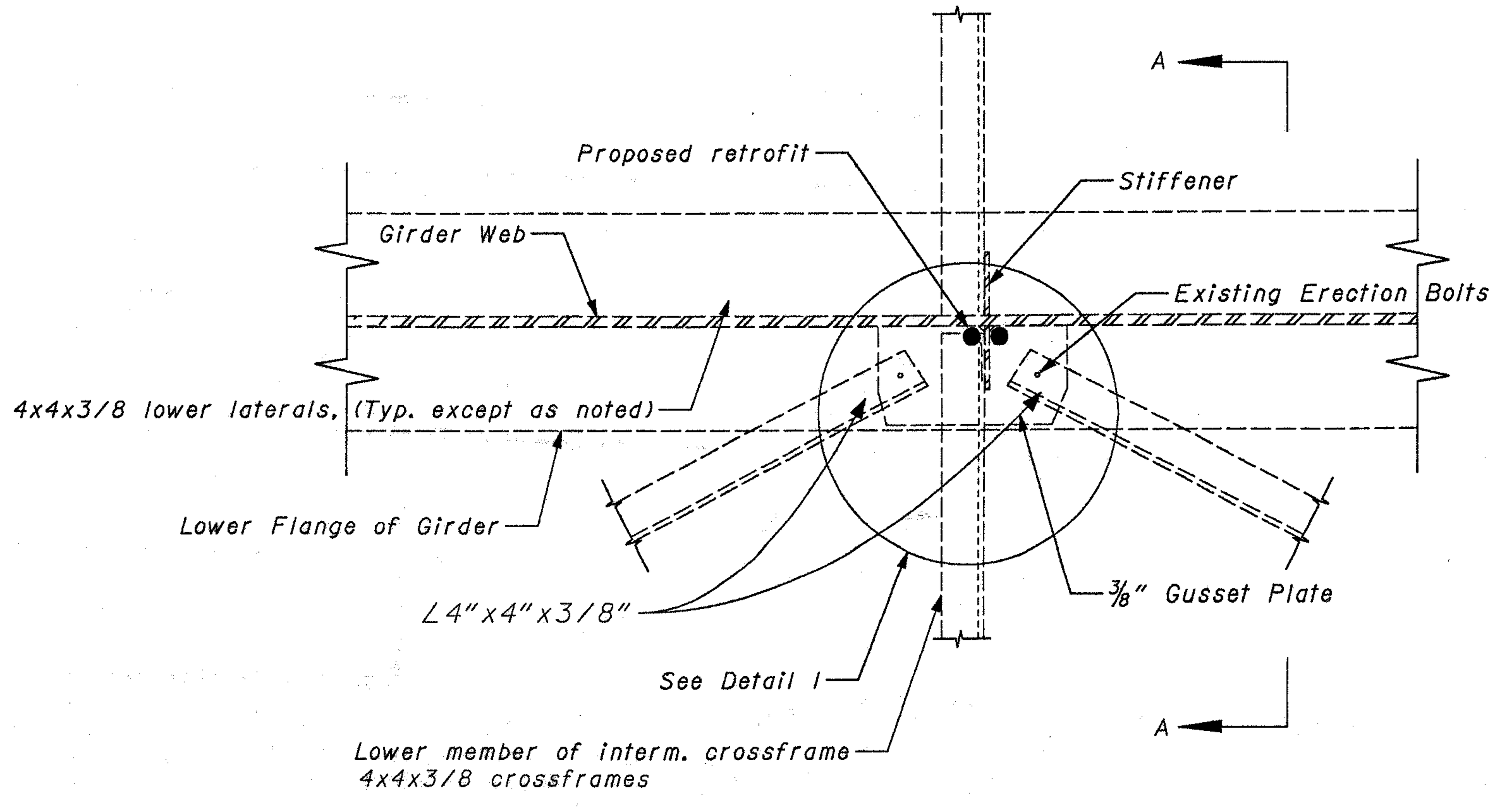
3. Any remaining fillet welds at the gusset plate shall be ground so that the resulting surfaces of the web and stiffener are smooth. Extreme care shall be taken to ensure the full thickness of the web is maintained and no undercut, gouging or overgrinding of the web takes place. If the holes of step 1 and step 2 did not touch the face of the adjacent surface, the hole shall be ground so that a 1 inch minimum radius results.

The accepted number of retrofits described herein will be paid for at the contract unit price per location, which price and payment shall be full compensation for furnishing all material, labor, and equipment necessary to clean, drill, cut and grind the lateral bracing gusset retrofit area. A single location is considered to be one drilling operation, i.e. one or three holes depending on whether option A or option B is the selected method of retrofit. Payment will be made at the contract price bid under:

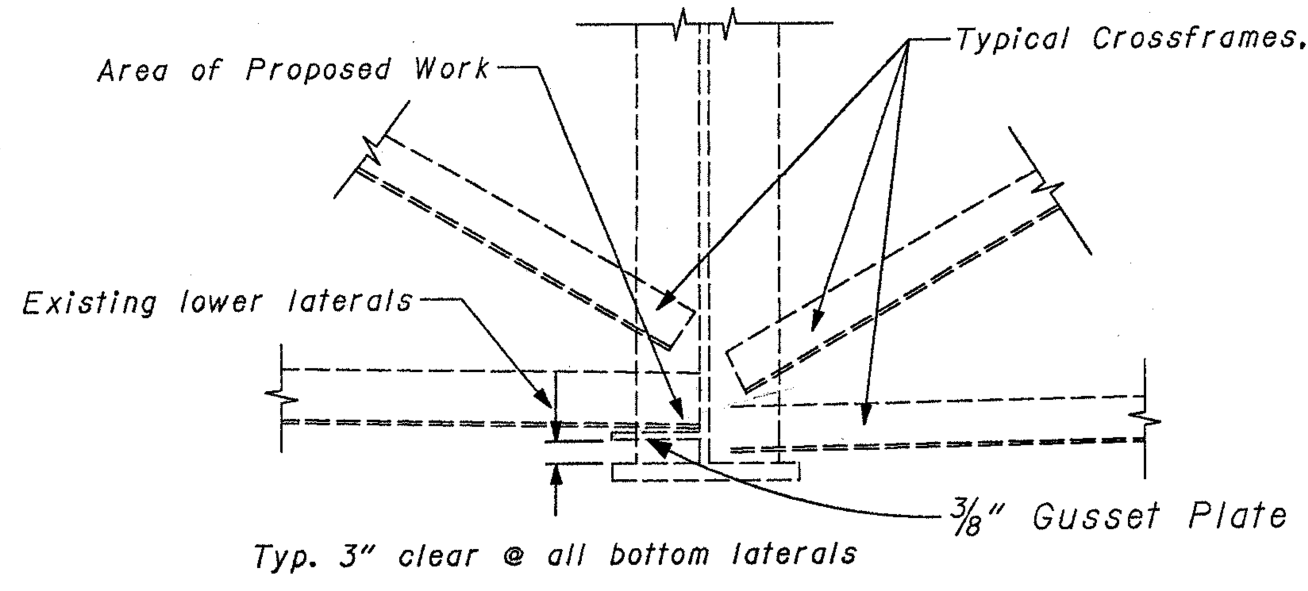
ITEM	UNIT	DESCRIPTION
Special	Each	Structure Misc: Lateral Bracing Gusset Plate Retrofit Upgrade (Intermediate)

CUTTING OF VERTICAL LEGS

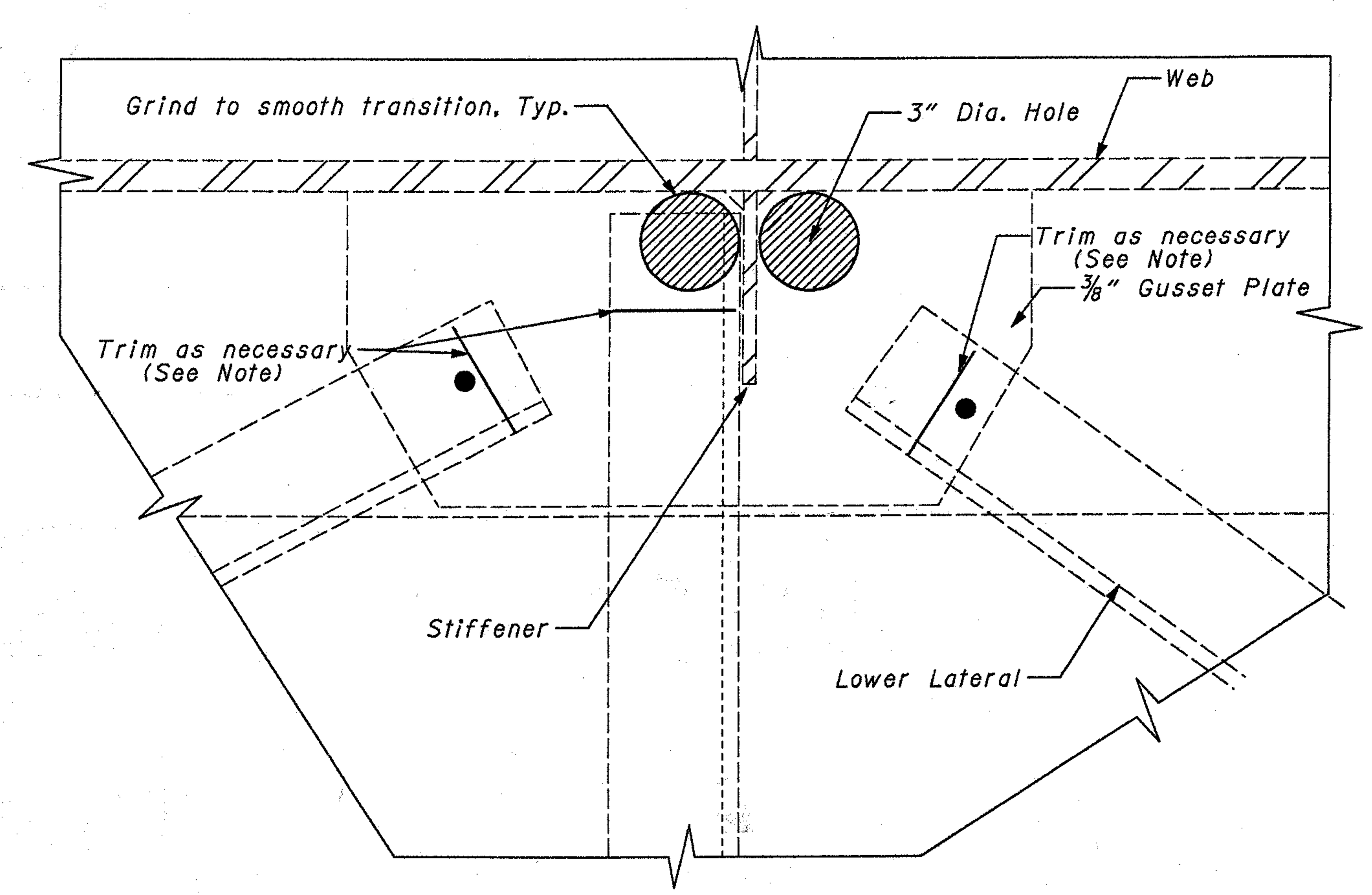
At certain locations the lower lateral bracing and/or the horizontal member of the crossframe may have a section of its vertical leg cut in order to drill the holes as deemed necessary by the Engineer. If so the Contractor may cut the minimal amount of the vertical leg that the Engineer deems necessary to remove. The Contractor shall make the cut leaving a smooth arc or grind it smooth after the cut. Any damage done by the Contractor thru neglect or carelessness shall be repaired by him at no additional cost to the State of Ohio. The above work shall be included in Item Special - Stucture Misc.: Lateral Bracing Gusset Plate Retrofit Upgrade (Intermediate) for payment.



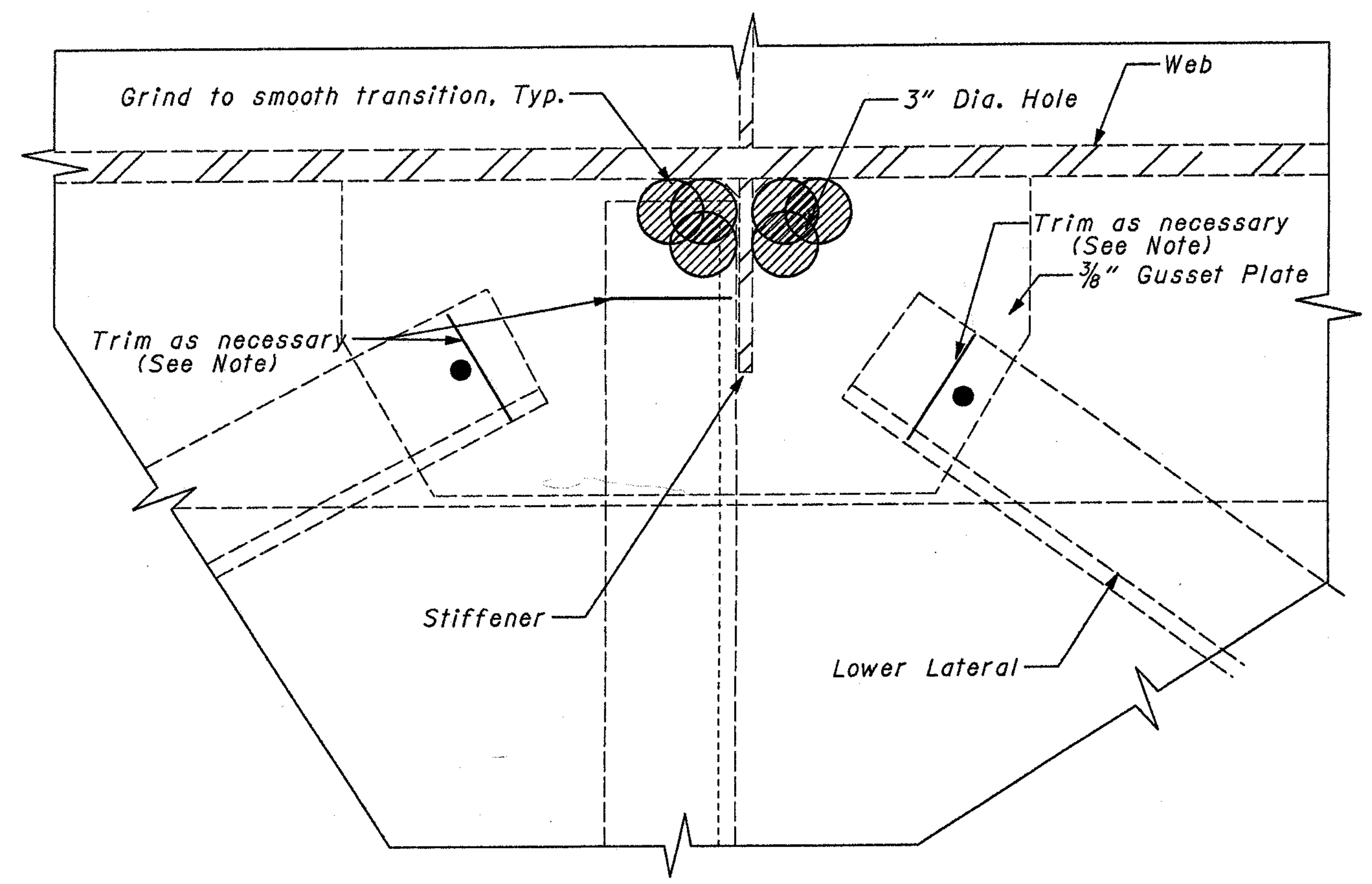
DETAILS OF BOTTOM LATERALS
(EXISTING LOWER LATERAL CONNECTION DETAIL)



SECTION A-A



DETAIL 1 OPTION A

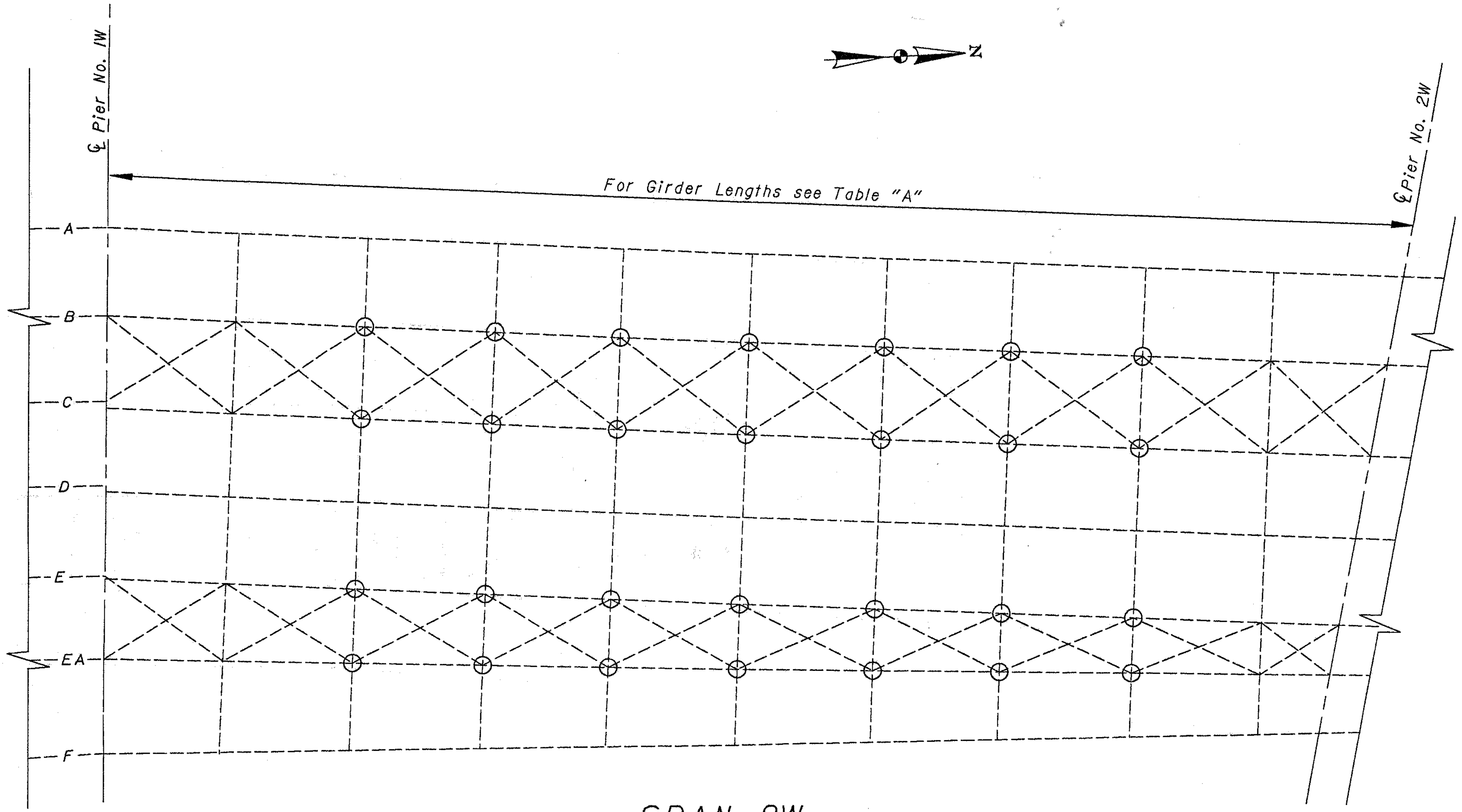


DETAIL 1 OPTION B

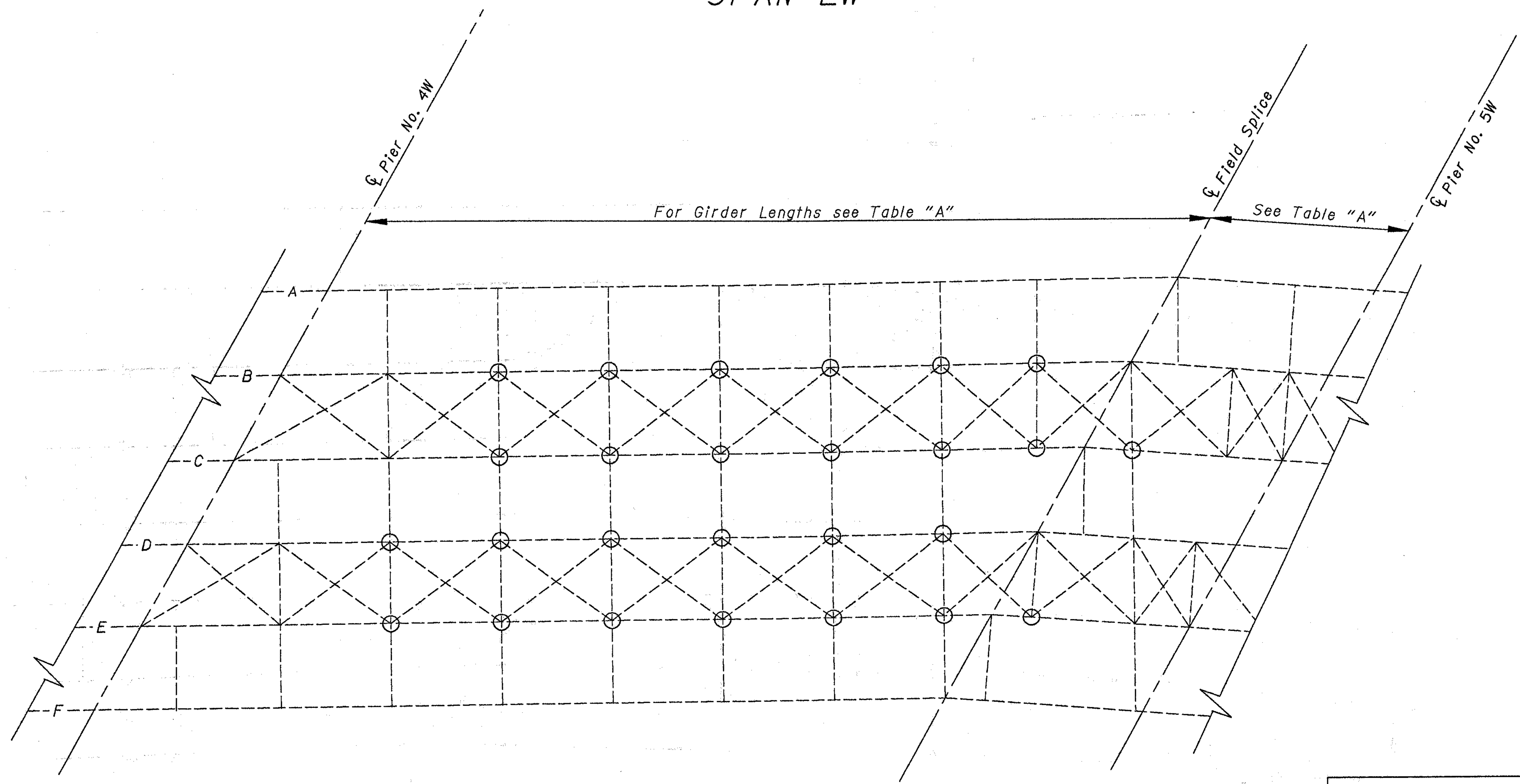
STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPARTMENT 1/6

Lower Lateral Retrofit
Typical Details
IR-71
Hamilton County

DESIGNED	DRAWN	REVIEWED	CHECKED	DATE	REVISIONS
SDC	SDC	RLE	RLE		



SPAN 2W



SPAN 5W

TABLE "A"			
GIRDER	UNIT I		
	Span 2W	℄ Pier 4W to ℄ Splice	℄ Splice to ℄ Pier 5W
A	149'-11 11/16"	102'-8 1/2"	21'-10 1/16"
B	147'-8 5/16"	103'-1"	21'-10 1/16"
C	145'-4 7/8"	103'-3 5/8"	21'-10 1/16"
D	143'-1 1/2"	103'-10 1/4"	21'-10 1/16"
E	140'-10 1/8"	103'-10 7/16"	21'-11"
EA	139'-0 7/8"	-	-
F	137'-4 9/16"	103'-10 5/8"	22'-0 1/8"

LEGEND

○ Area of Lower Lateral Retrofit Locations

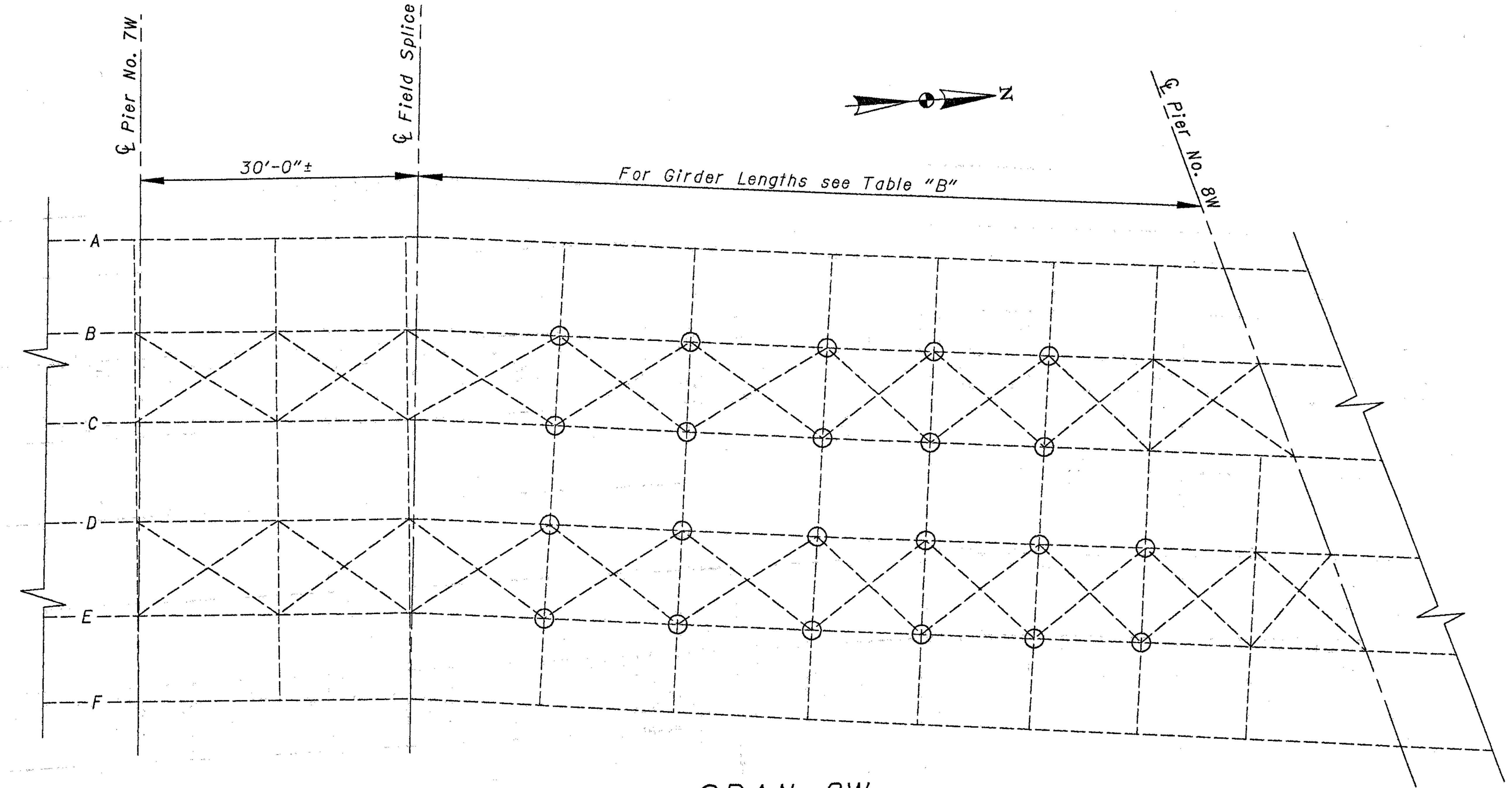
See Details of Retrofits on Sheet 1/6.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPARTMENT 2/6

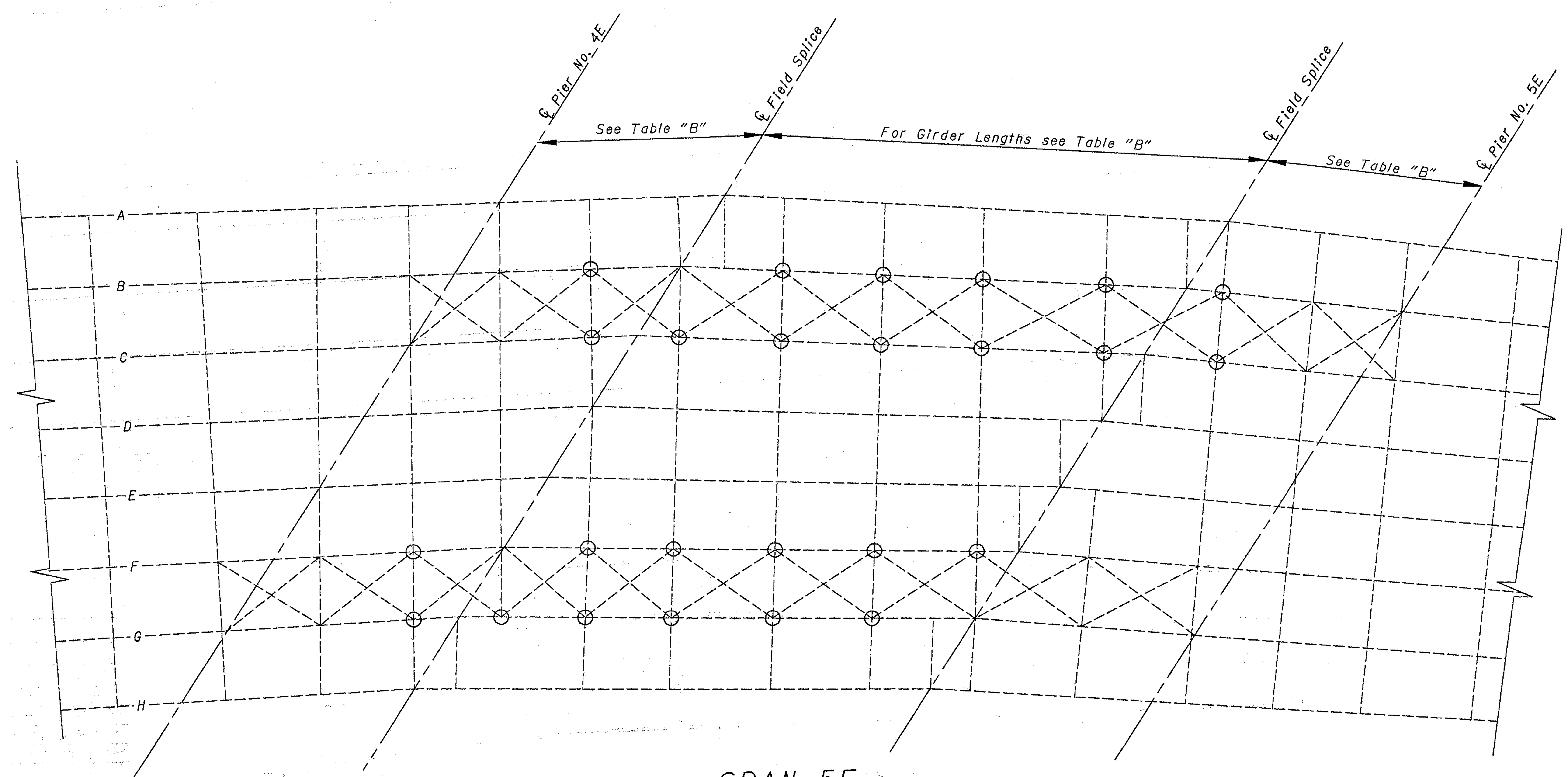
FRAMING PLAN UNIT I
BRIDGE NO. HAM-71-0154
over Southbound I-471
Hamilton County

DESIGNED	DRAWN	REVIEWED	CHECKED	DATE	REVISIONS
SDC	SDC	RLE	RLE		

CALC. BY:
DATE:
CHKD. BY:
DATE:



SPAN 8W



SPAN 5E

TABLE "B"

GIRDER	UNIT 2	UNIT 4		
	℄ Spice to ℄ Pier 8W	℄ Pier 4E to ℄ Splice	℄ Splice to ℄ Splice	℄ Splice to ℄ Pier 5E
A	92'-1 1/16"	30'-10"	66'-4 1/16"	29'-7 7/16"
B	95'-8 9/16"	30'-11 5/16"	66'-7 1/2"	29'-8 15/16"
C	99'-4 1/16"	31'-0 11/16"	66'-10 15/16"	29'-10 1/2"
D	102'-11 9/16"	31'-2 1/8"	67'-2 5/16"	30'-0 1/16"
E	106'-7 1/16"	31'-3 3/4"	67'-5 11/16"	30'-1 5/8"
F	110'-3 5/16"	31'-5 1/2"	67'-8 15/16"	30'-3 3/4"
G	-	31'-7 7/16"	68'-0 1/16"	30'-4 7/8"
H	-	31'-9 1/2"	68'-3 1/8"	30'-6 9/16"

LEGEND

○ Area of Lower Lateral Retrofit Locations
See Details of Retrofits on Sheet 1/6.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPARTMENT 3/6

FRAMING PLAN UNITS 2&4
BRIDGE NO. HAM-71-0154
over Southbound I-471
Hamilton County

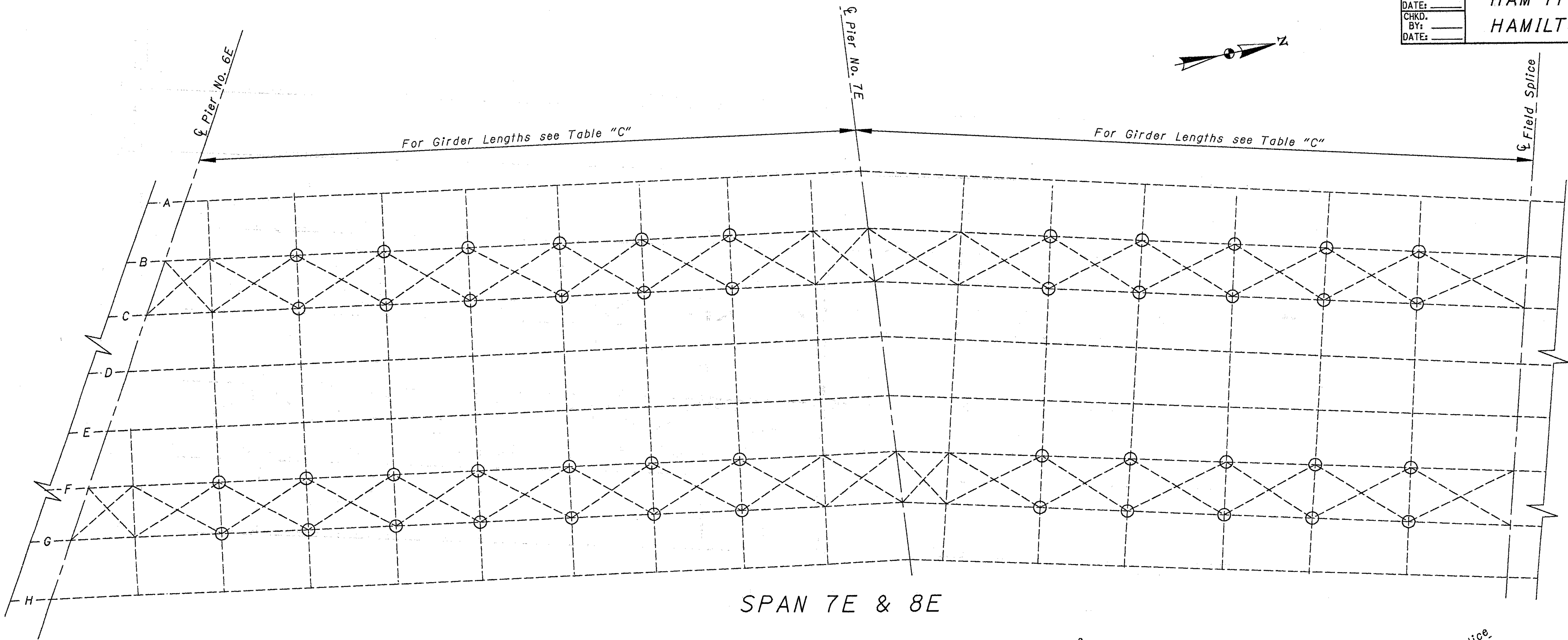
DESIGNED	DRAWN	REVIEWED	CHECKED	DATE	REVISIONS
SDC	SDC	RLE	RLE		

CALC. BY:	DATE:	CHKD. BY:	DATE:

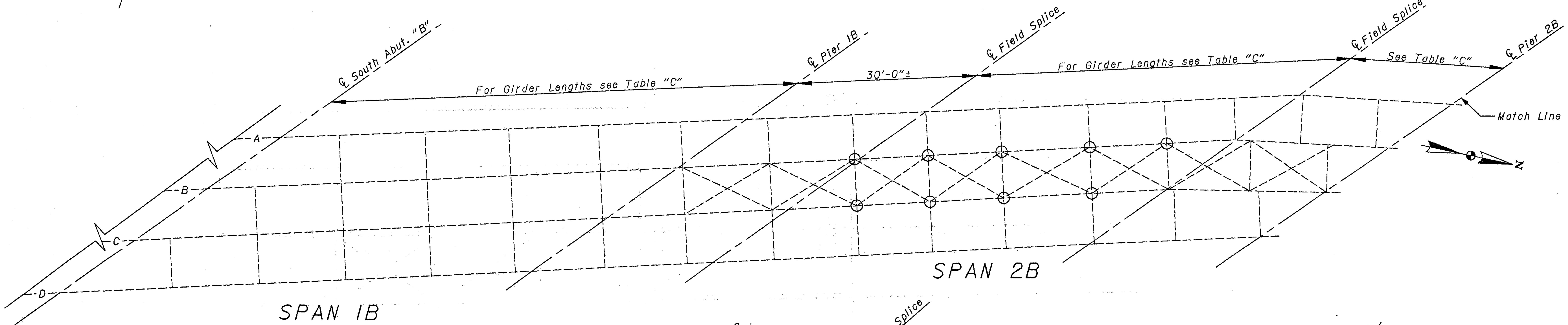
HAM-71-1.30/9.00
HAMILTON COUNTY

OHIO
FHWA REGION 5

373D / 401

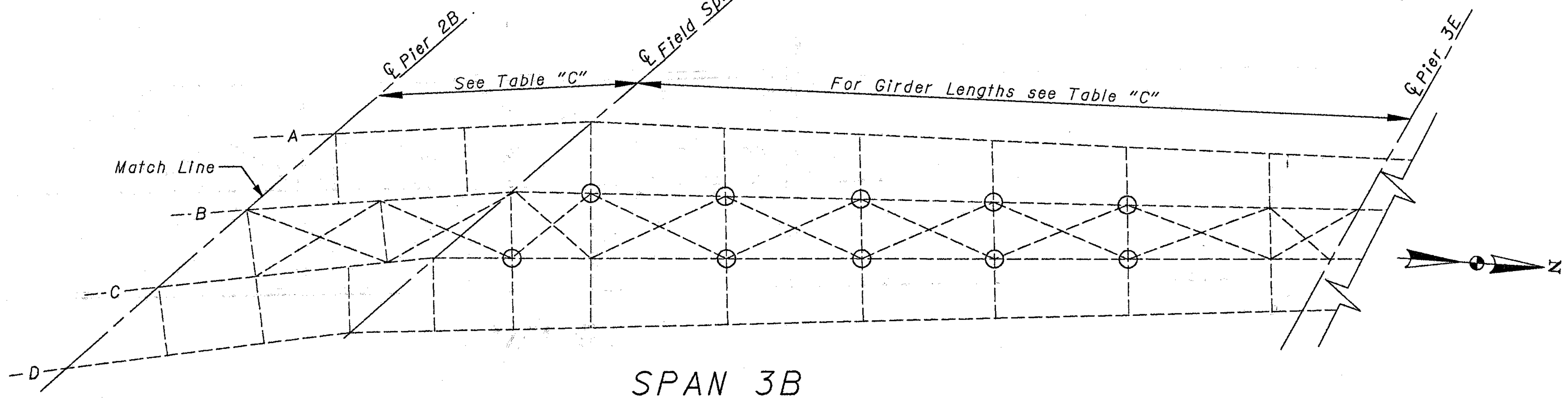


SPAN 7E & 8E



SPAN 1B

SPAN 2B



SPAN 3B

LEGEND

○ Area of Lower Lateral Retrofit Locations
See Details of Retrofits on Sheet 1/6.

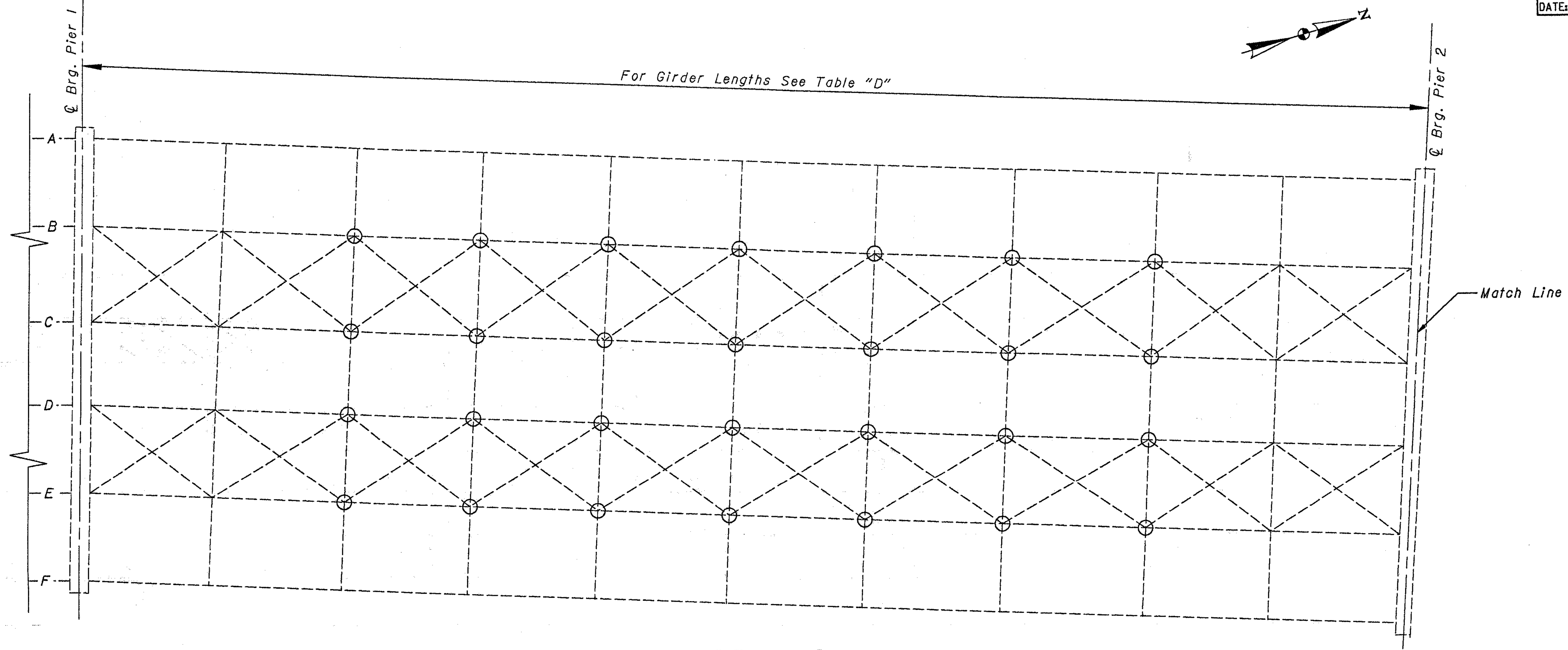
TABLE "A"						
GIRDER	UNIT 5		UNIT 6			
	Span 7E	℄ Pier 7E to ℄ Splice	℄ Splice to ℄ Splice	℄ Splice to ℄ Pier 2B	℄ Pier 2B to ℄ Splice	℄ Splice to ℄ Pier 3E
A	109'-9 1/2"	108'-5 5/8"	64'-5 7/8"	27'-9 15/16"	27'-8 3/16"	86'-2 13/16"
B	114'-1"	106'-7 15/16"	65'-11 7/8"	28'-7 11/16"	28'-5 7/8"	91'-10 1/4"
C	118'-4 9/16"	104'-10 5/16"	67'-6"	29'-5 5/8"	29'-3 3/4"	97'-6 7/16"
D	122'-8 1/16"	103'-0 5/8"	67'-6"	31'-0 11/16"	30'-10 3/4"	103'-3 1/4"
E	126'-11 5/8"	101'-2 15/16"	-	-	-	-
F	131'-3 3/16"	99'-5 1/4"	-	-	-	-
G	135'-6 3/4"	97'-7 9/16"	-	-	-	-
H	139'-10 5/16"	95'-9 15/16"	-	-	-	-

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPARTMENT 4/6

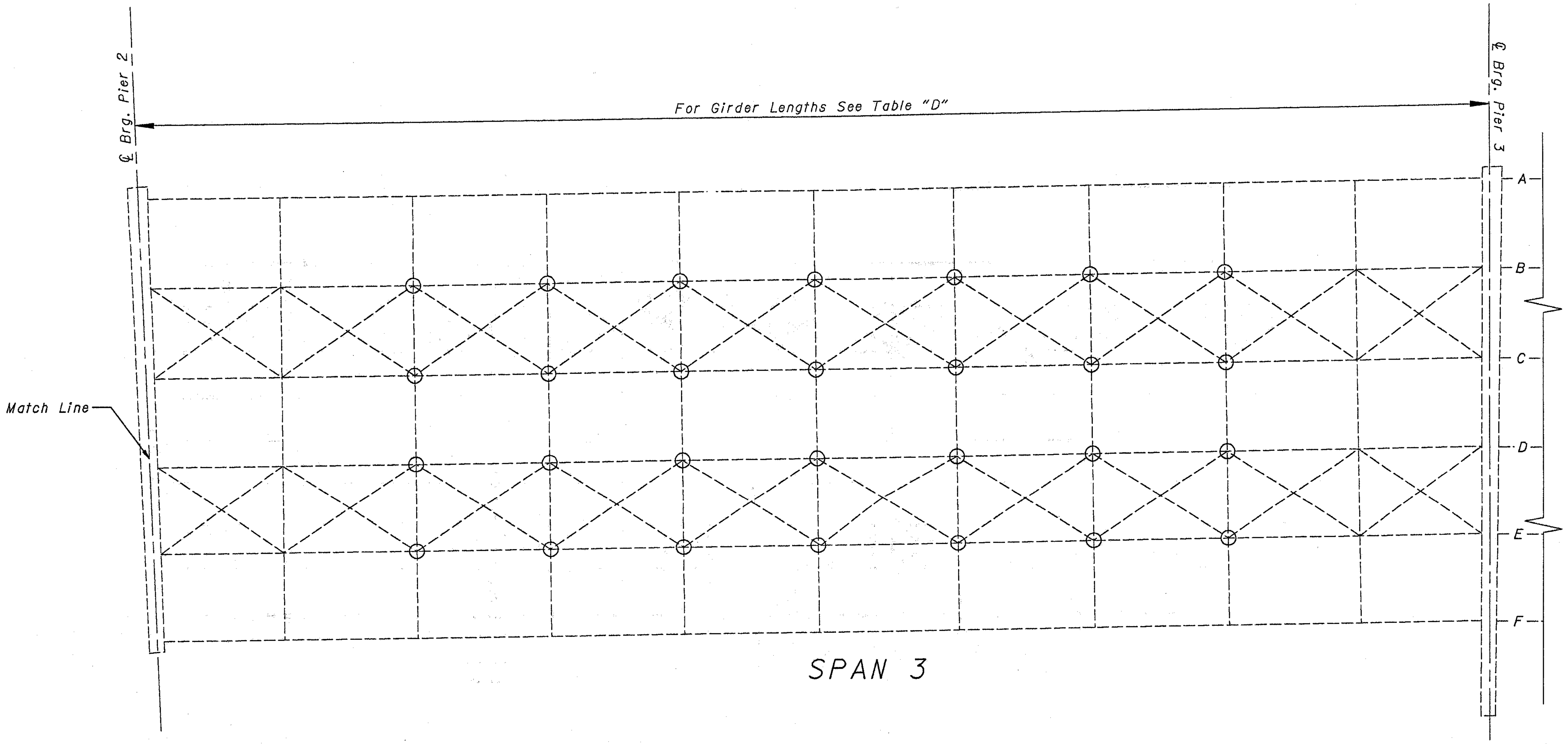
FRAMING PLAN UNITS 5&6
BRIDGE NO. HAM-71-0154
over Southbound I-471
Hamilton County

DESIGNED	DRAWN	REVIEWED	CHECKED	DATE	REVISIONS
SDC	SDC	RLE	RLE		

CALC. BY: DATE: CHKD. BY: DATE:	HAM-71-1.30/9.00 HAMILTON COUNTY	OHIO FHWA REGION 5	373E 401



SPAN 2



SPAN 3

TABLE "D"		
GIRDER	Span 2	Span 3
A	145'-1 1/8"	144'-11 5/8"
B	144'-7 7/16"	144'-6 3/8"
C	144'-1 11/16"	144'-0 3/4"
D	143'-8"	143'-7 5/16"
E	143'-2 1/4"	143'-1 7/8"
F	142'-8 9/16"	142'-8 7/16"

LEGEND

○ Area of Lower Lateral Retrofit Locations
See Details of Retrofits on Sheet 1/6.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPARTMENT 5/6

FRAMING PLAN
BRIDGE NO. HAM-71-0243L
over Eden Pk. Entrance, US 42
Hamilton County

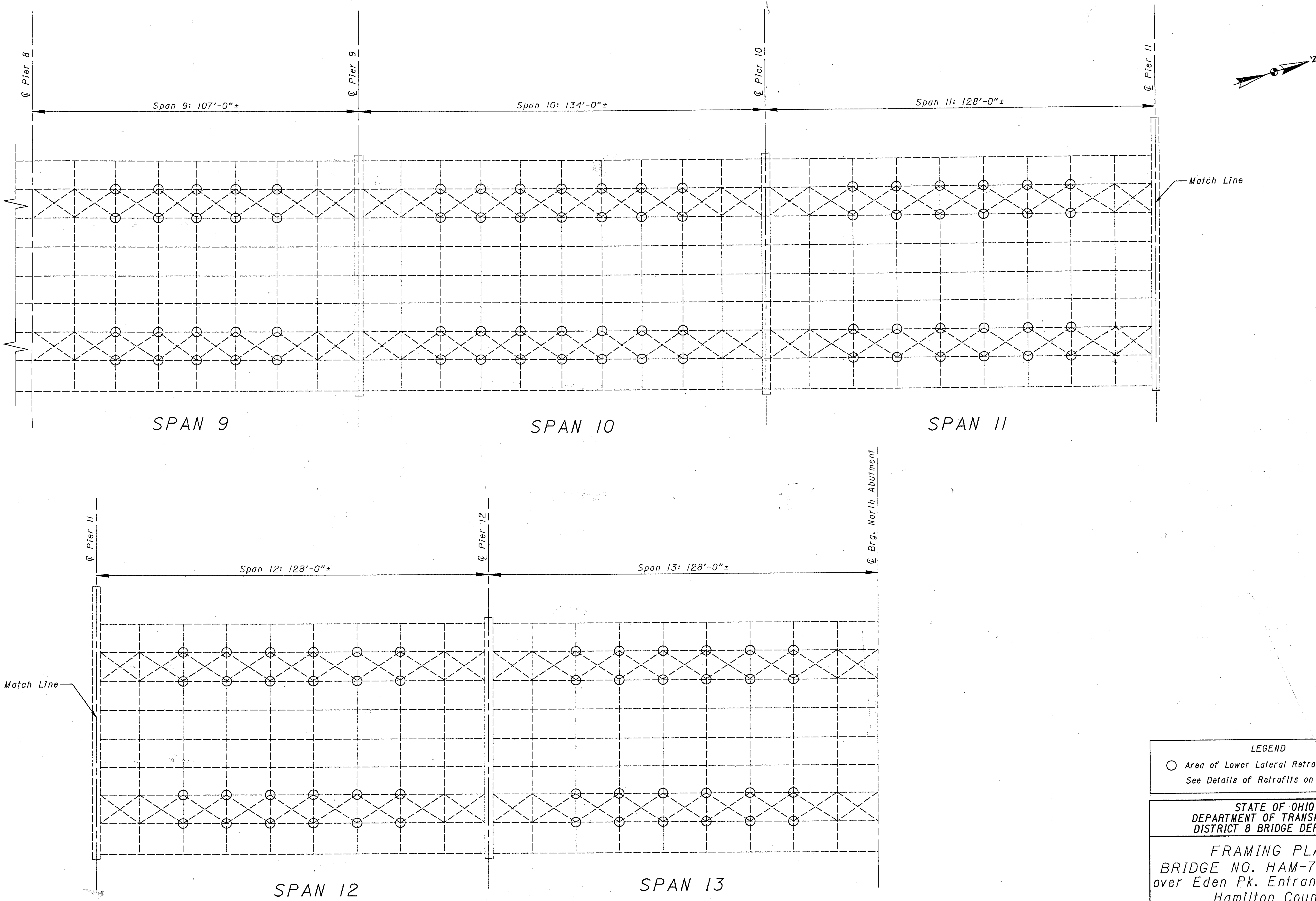
DESIGNED	DRAWN	REVIEWED	CHECKED	DATE	REVISIONS
SDC	SDC	RLE	RLE		

HAM-71-1.30/9.00
HAMILTON COUNTY

OHIO
FHWA REGION 5

373F
401

CALC. BY:
DATE:
CHKD. BY:
DATE:



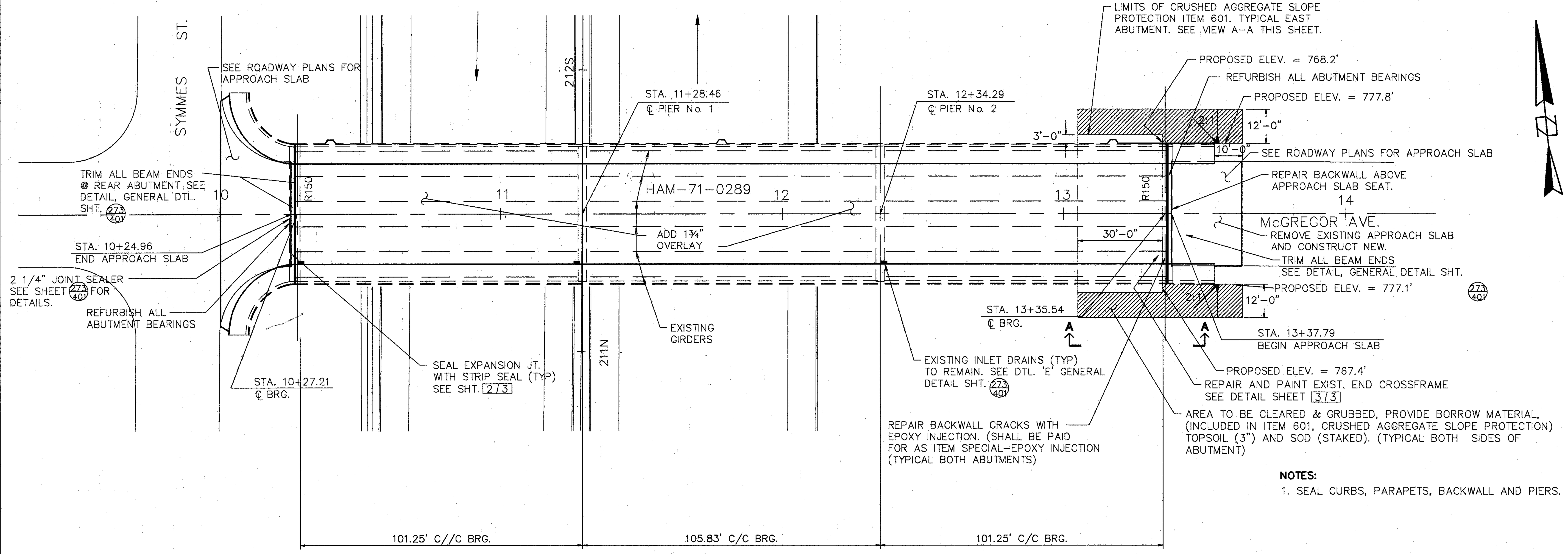
LEGEND

○ Area of Lower Lateral Retrofit Locations
See Details of Retrofits on Sheet 1/6.

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
DISTRICT 8 BRIDGE DEPARTMENT 6/6

FRAMING PLAN
BRIDGE NO. HAM-71-0243R
over Eden Pk. Entrance, US 42
Hamilton County

DESIGNED	DRAWN	REVIEWED	CHECKED	DATE	REVISIONS
SDC	SDC	RLE	RLE		

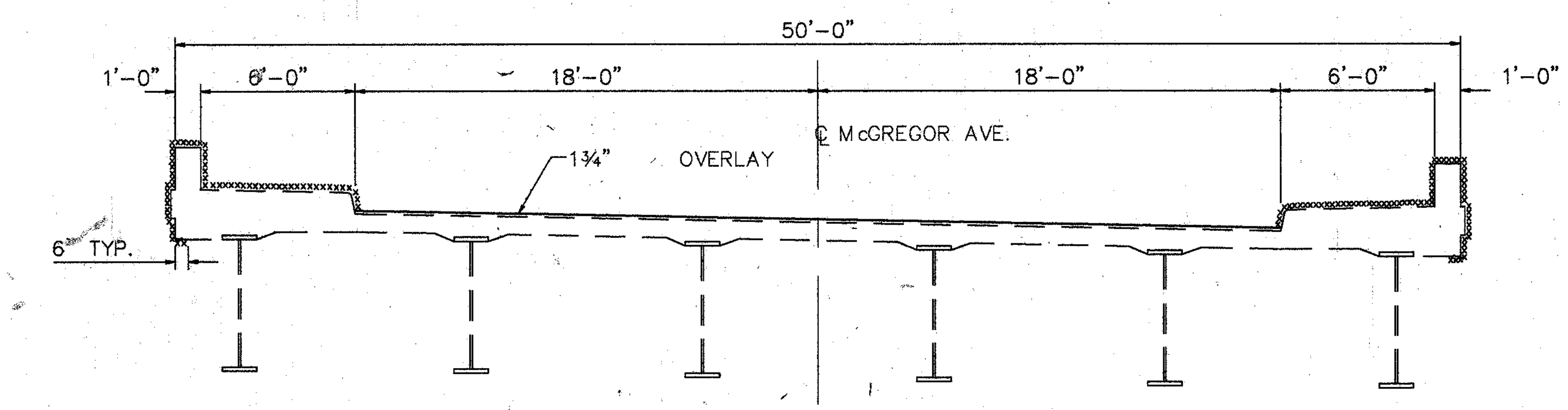


NOTES:

1. SEAL CURBS, PARAPETS, BACKWALL AND PIERS.

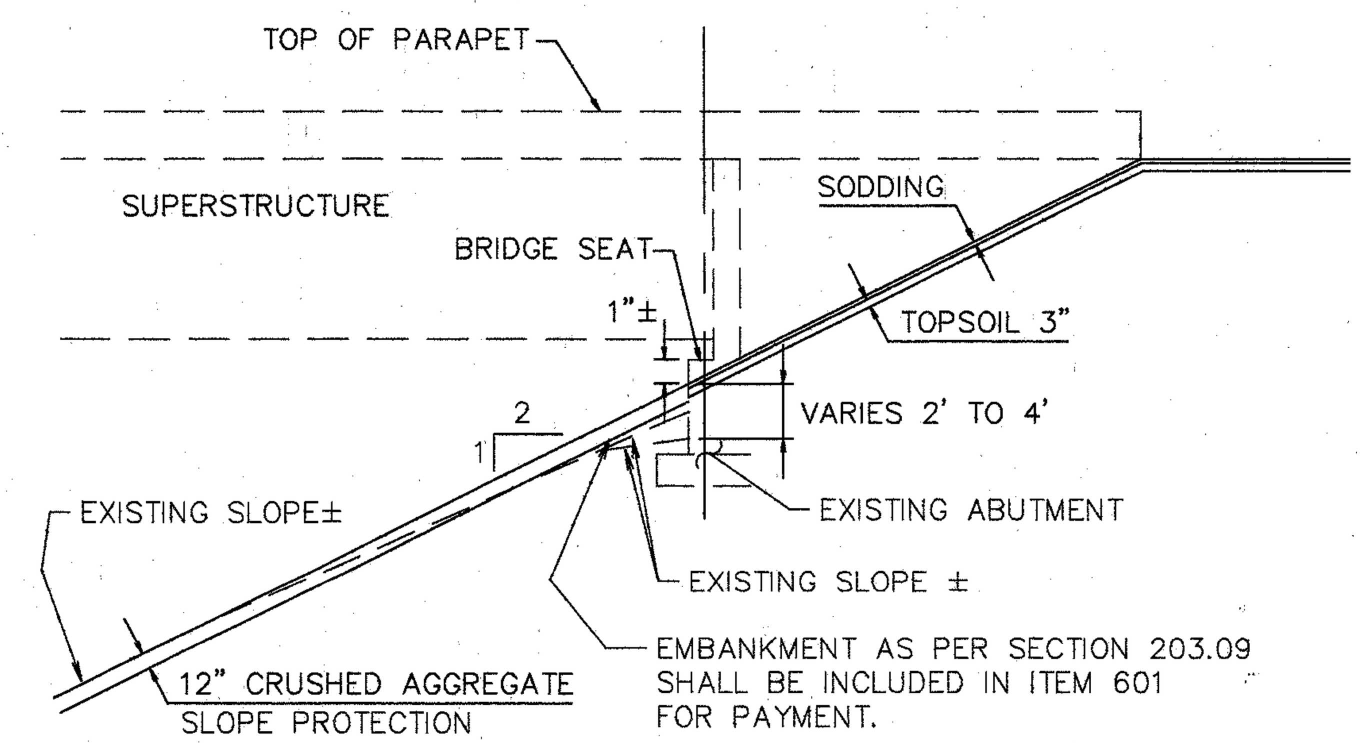
PLAN

ROCKER OR BOLSTER SIZE	JACK CAPACITY REQ'D. (MIN)
R150	100 TON



TYP. BRIDGE SECTION

XXXX SURFACES TO BE SEALED UNDER ITEM SPECIAL–'SEALING OF CONCRETE SURFACES'



VIEW A–A SLOPE PROTECTION REPAIR
N.T.S.

EXISTING STRUCTURE

TYPE: 3 SPAN CONTINUOUS PLATE GIRDER WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: 101.25', 105.83', 101.25' C/C BEARING MEASURED ALONG BASE LINE
ROADWAY: 36'–0" F/F CURBS
SIDEWALK: 6'–0" BOTH SIDES
SKEW: NONE
LOADING FREQUENCY: C.F.=400 (57)
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS–1–54 (25'–0" LONG)
ALIGNMENT: TANGENT
SUPERELEVATION: AS SHOWN

WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402–1226
(513) 461–5660

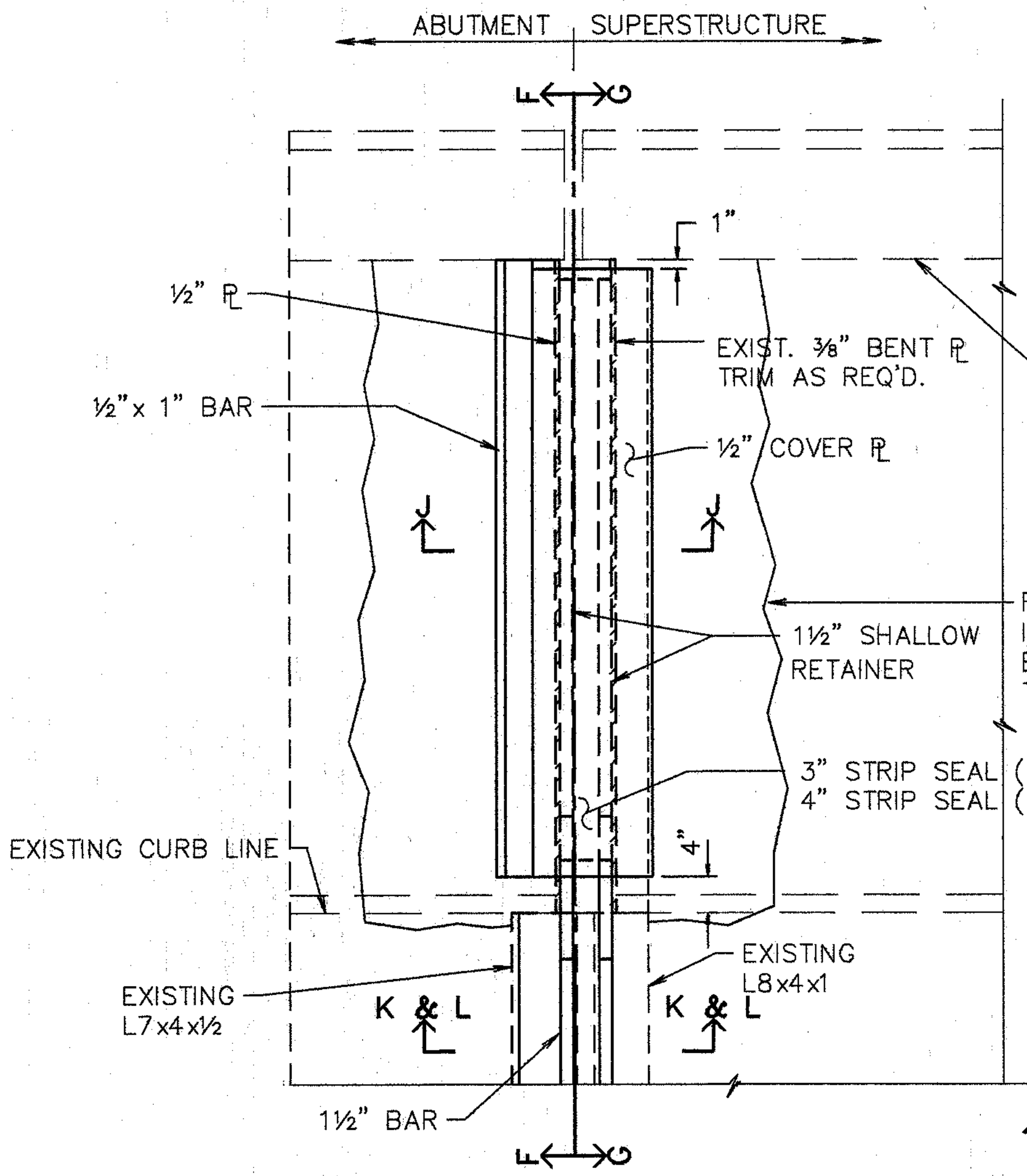
1/3

GENERAL PLAN

BRIDGE NO. HAM–71–0289
OVER INTERSTATE ROUTE 71

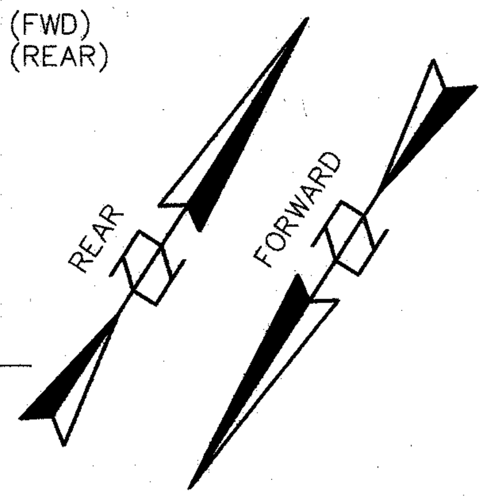
HAMILTON COUNTY

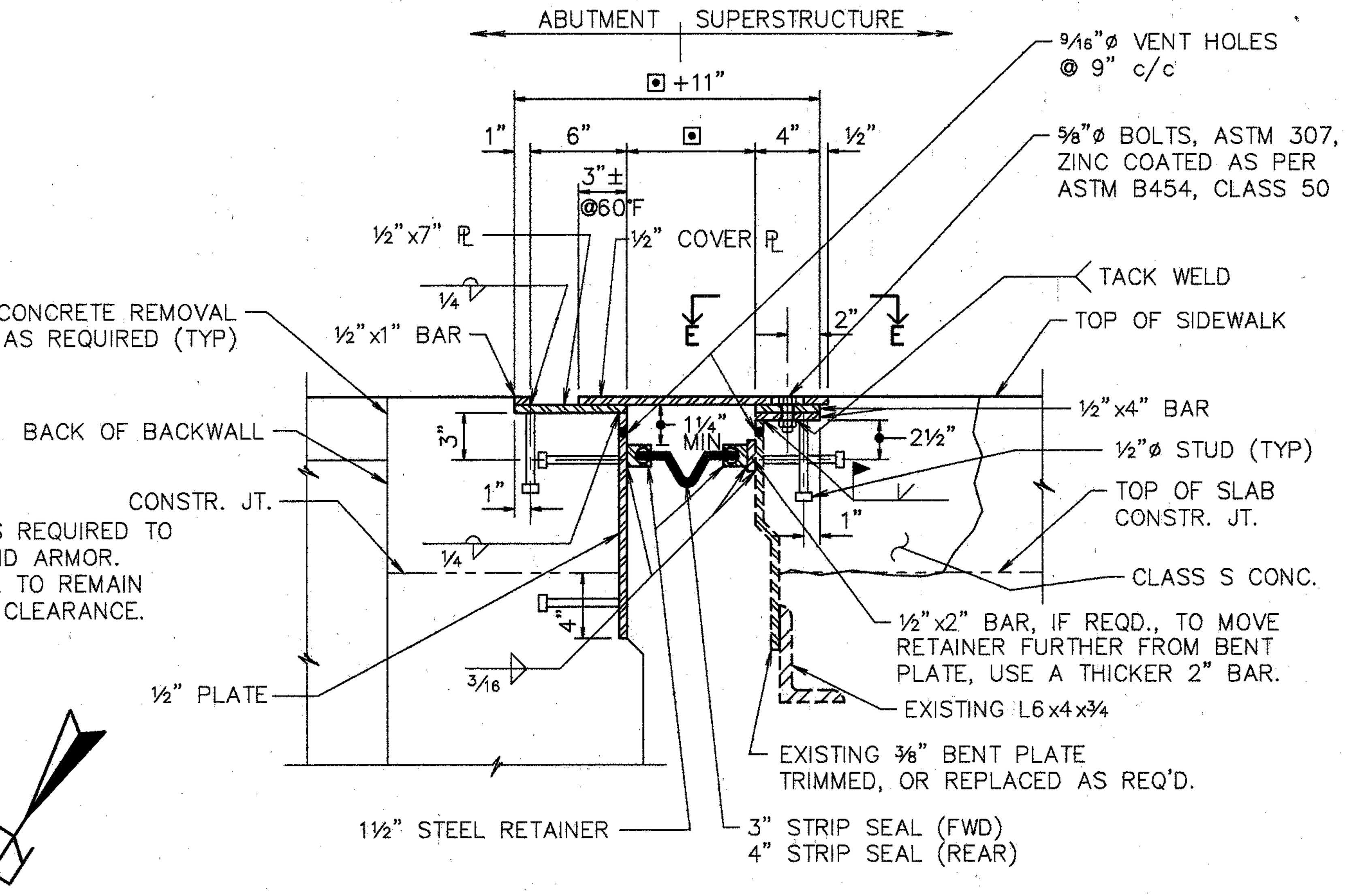
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	11/11/94	



PART PLAN @ ABUTMENTS

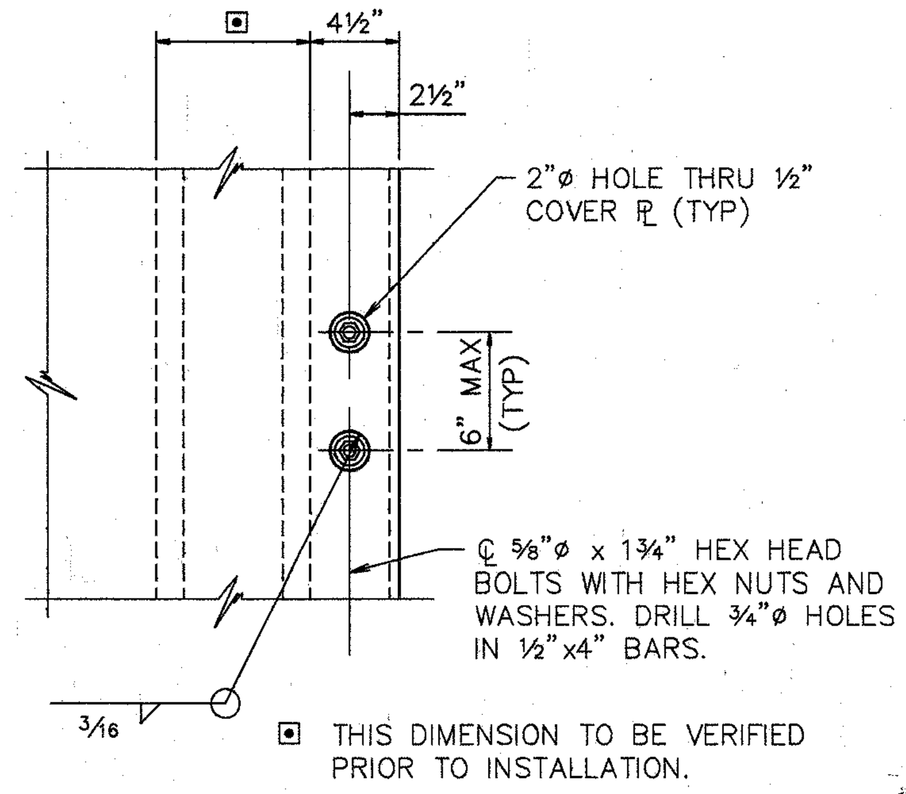
S.W. AND N.E. CORNERS AS SHOWN
S.E. AND N.W. OPPOSITE HAND





SECTION J-J

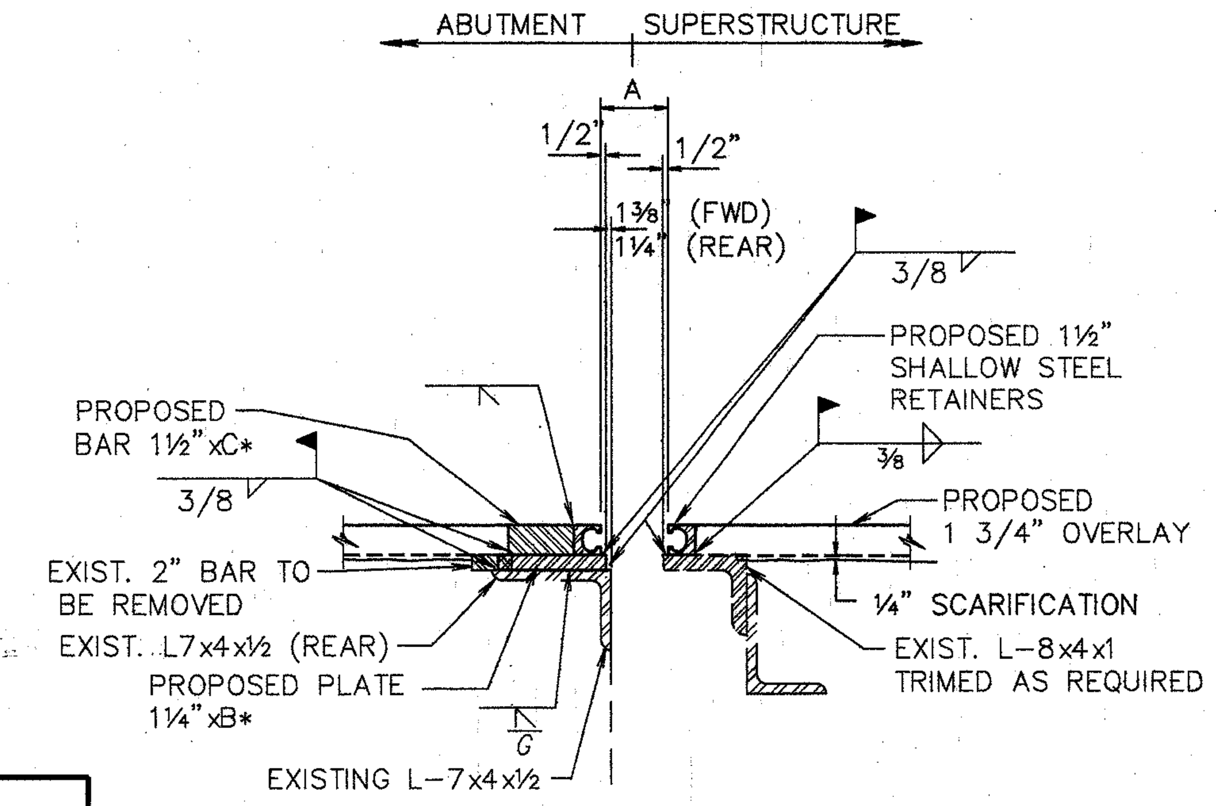
⊡ THIS DIMENSION TO BE VERIFIED PRIOR TO INSTALLATION.



VIEW E-E

⊡ THIS DIMENSION TO BE VERIFIED PRIOR TO INSTALLATION.

TEMPERATURE	DIM. 'A' FORWARD	DIM. 'A' REAR
40° F	2⅝"	3⅜"
50° F	2⅝"	3¼"
60° F	2½"	3"
70° F	2⅜"	2⅞"
80° F	2⅜"	2¾"
90° F	2¼"	2½"

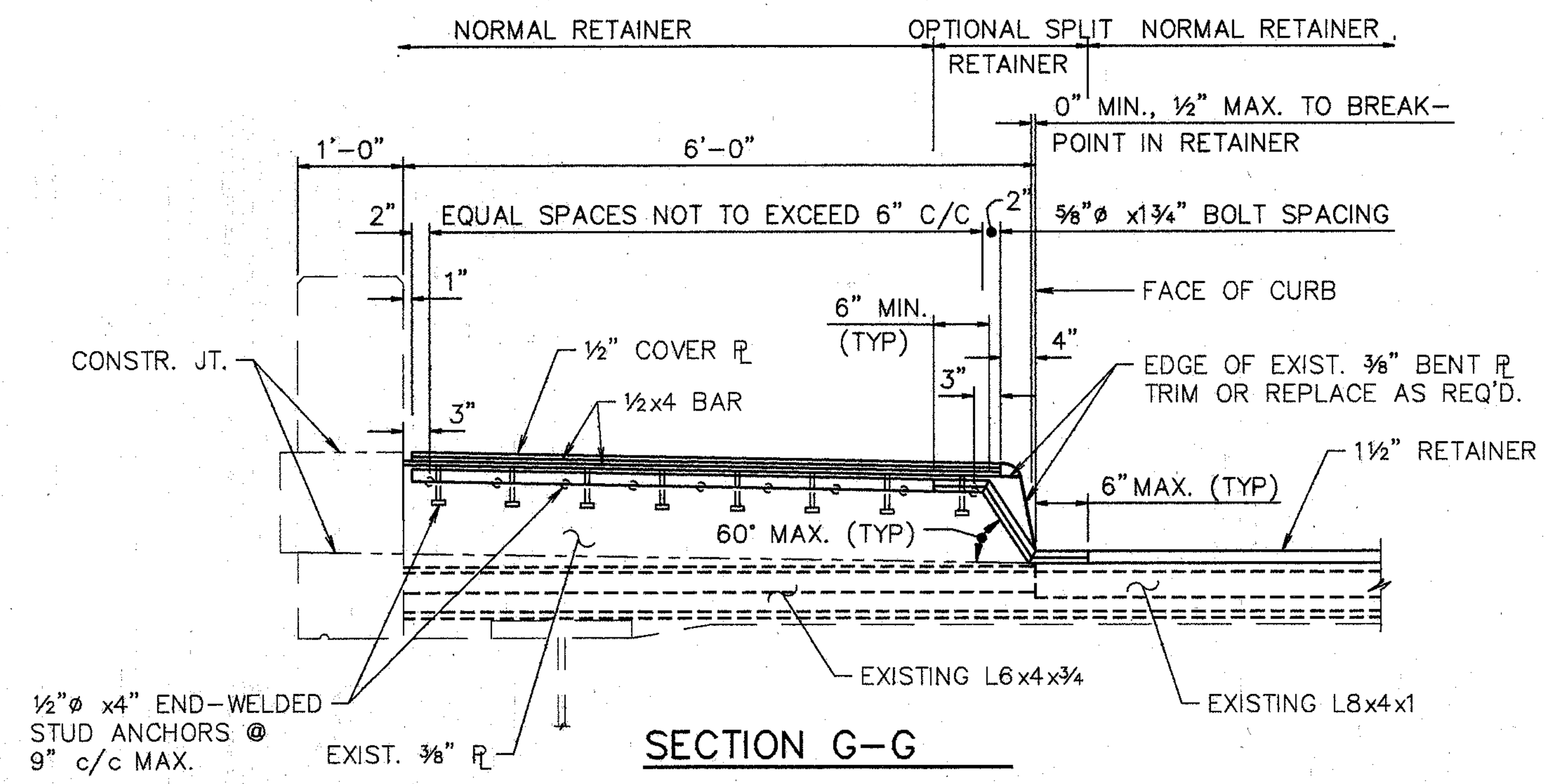


B* = ANGLE LEG MINUS 1⅞"(FWD)/1¾"(REAR)
C* = B* MINUS WIDTH OF RETAINER MINUS 1"

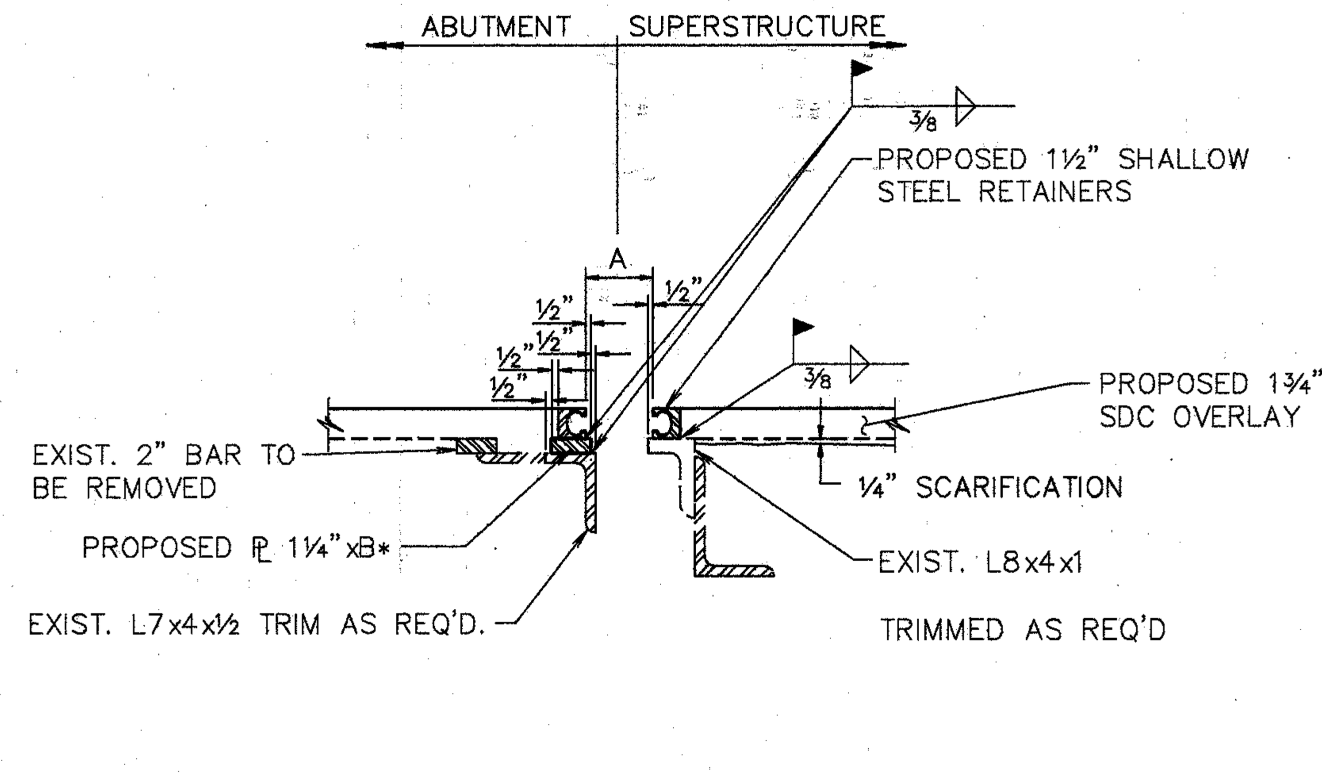
SECTION K-K WEST ABUT.

NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO MODIFYING THE EXPANSION JOINT.
2. THE PRICE BID FOR ITEM 516-'STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS', SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY OTHER INCIDENTIAL ITEMS, AS DETAILED. REMOVAL OF CURB OR PARAPET AS SHOWN SHALL BE INCLUDED UNDER ITEM 202-'PORTIONS OF STRUCTURE REMOVED.
3. FOR DETAILS NOT SHOWN REFER TO DRAWING EXJ-4-87 SHEETS 3 AND 4.
4. STRIP SEAL TO BE INSTALLED IN ONE CONTINUOUS PIECE (NO OPEN JOINTS).
5. PROVIDE TEMPORARY SUPPORT FOR ABUTMENT END DAM DURING CONSTRUCTION. REMOVE TEMPORARY SUPPORT AS SOON AS CONCRETE HAS SET, PREFERABLY WITHIN TWO HOURS AFTER PLACING TO AVOID DAMAGE DUE TO EXPANSION AND CONTRACTION OF SUPERSTRUCTURE.



SECTION G-G



B* = RETAINER PLUS 1"

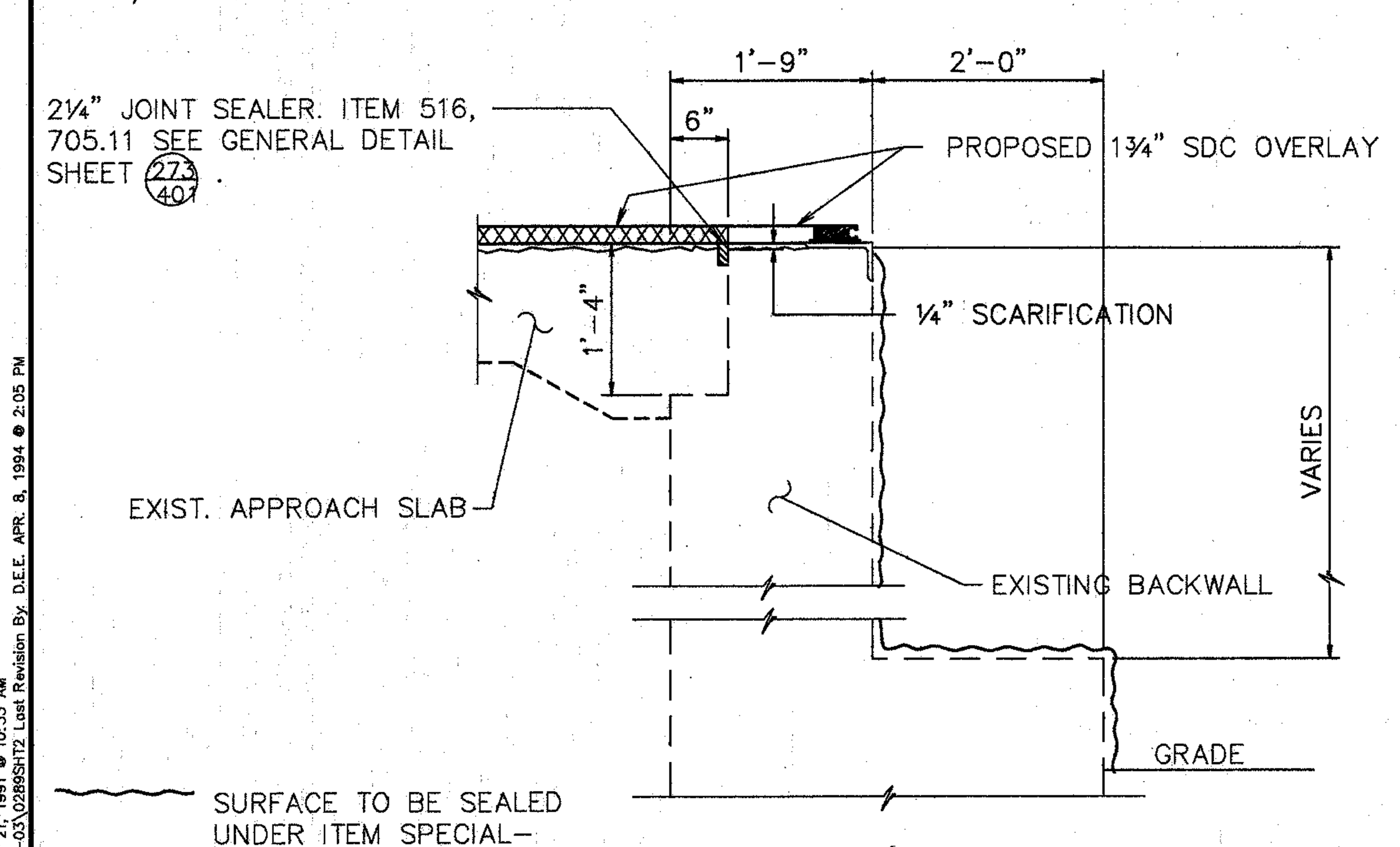
SECTION K-K EAST ABUT.

NOTES FOR SECTION L-L

1. EXISTING REINFORCING STEEL TO REMAIN ~ REINFORCING STEEL DAMAGED TO BE REPLACED AT CONTRACTORS EXPENSE.
2. 1' MIN. EMBEDMENT (SEE DOWEL HOLE GENERAL NOTE) ITEM 510.
3. TYPE 'A' WATERPROOFING (PAYMENT INCLUDED IN THE PRICE BID FOR APPROACH SLAB).
4. CLASS 'C' CONCRETE, ABUTMENT RECONSTRUCTION.
5. PROVIDE CONTRACTION AND EXPANSION JOINTS TO MATCH THOSE IN EXISTING BACKWALL AND PROVIDE CONSTRUCTION JOINTS AS REQUIRED TO MAINTAIN TRAFFIC. PAYMENT TO BE INCLUDED IN PRICE BID FOR ITEM 511 CLASS C CONCRETE RECONSTRUCTION.

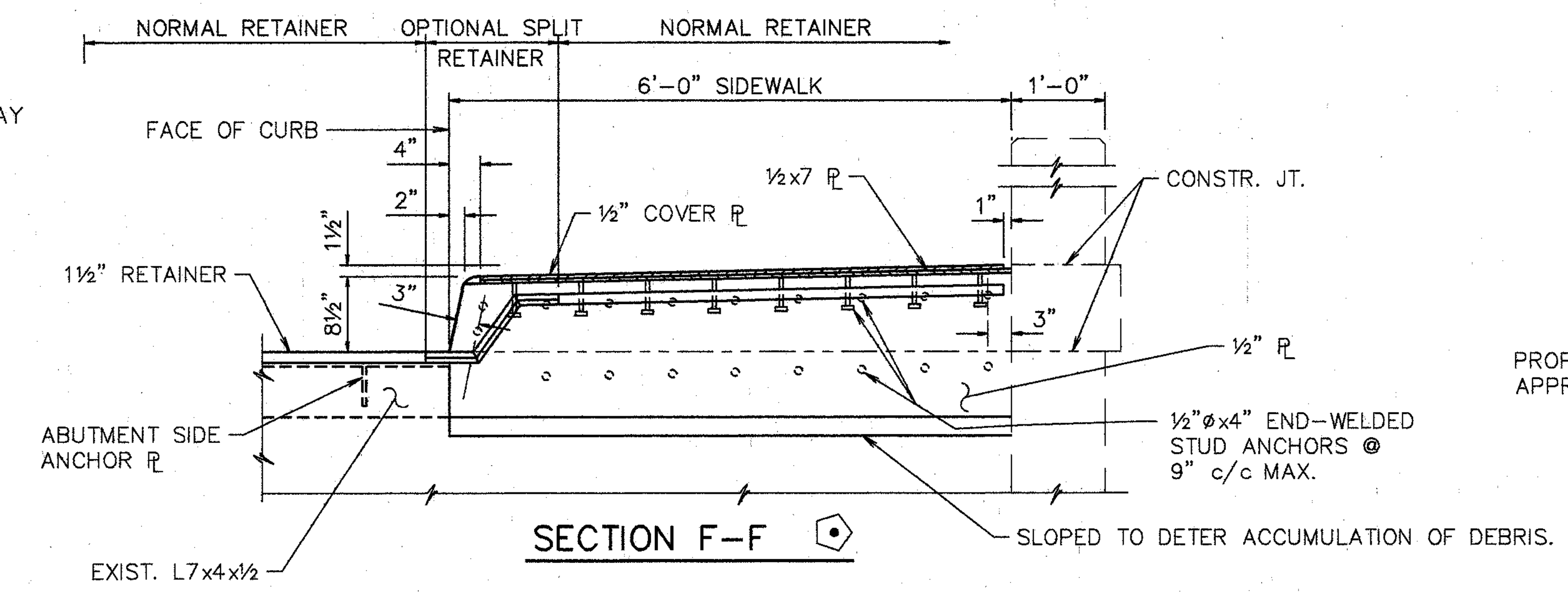
EXISTING CONCRETE TO BE REMOVED INCLUDE IN ITEM 202 FOR PAYMENT.

SURFACE TO BE SEALED UNDER ITEM SPECIAL- 'SEALING OF CONCRETE SURFACE, EPOXY'.



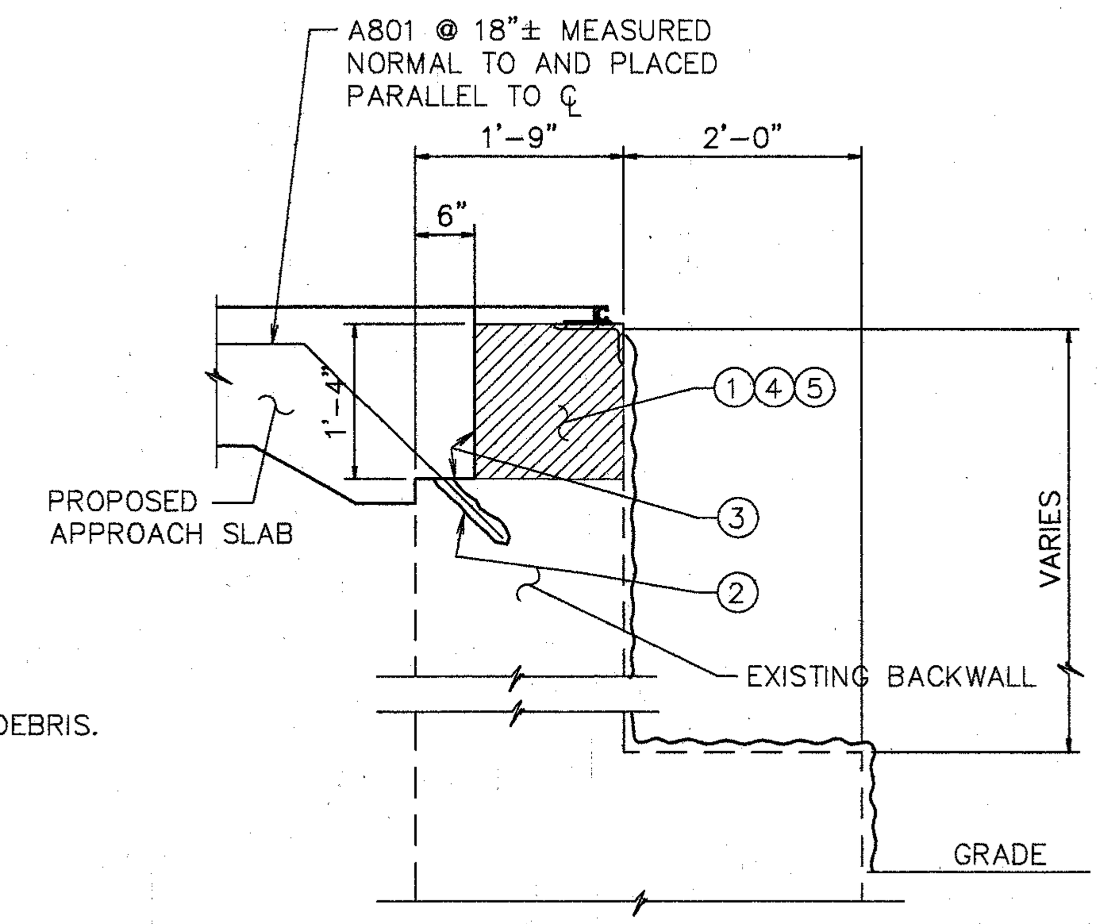
SURFACE TO BE SEALED UNDER ITEM SPECIAL- 'SEALING OF CONCRETE SURFACE, EPOXY'.

SECTION LL WEST ABUTMENT ONLY



SECTION F-F ⊙

⊙ - SIDEWALK AND PARAPET JOINT ARMOR ANCHORS:
IN LIEU OF THE ½"ø END-WELDED STUDS SHOWN, ALTERNATE METHODS OF ANCHORING THE ½" PLATES MAY BE USED, SUBJECT TO APPROVAL BY THE DIRECTOR.



SECTION L-L EAST ABUT. ONLY

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MISCELLANEOUS DETAILS

BRIDGE NO. HAM-71-0289
OVER I-71

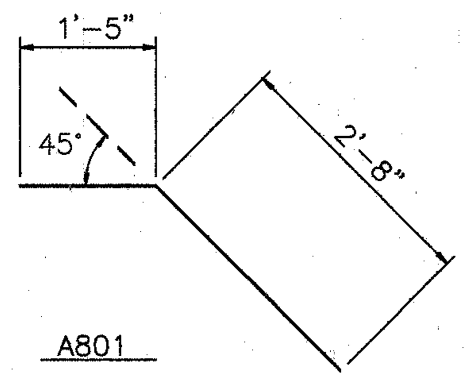
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.	L.A.P.		M.A.A.	D.E.M.11/11/94	

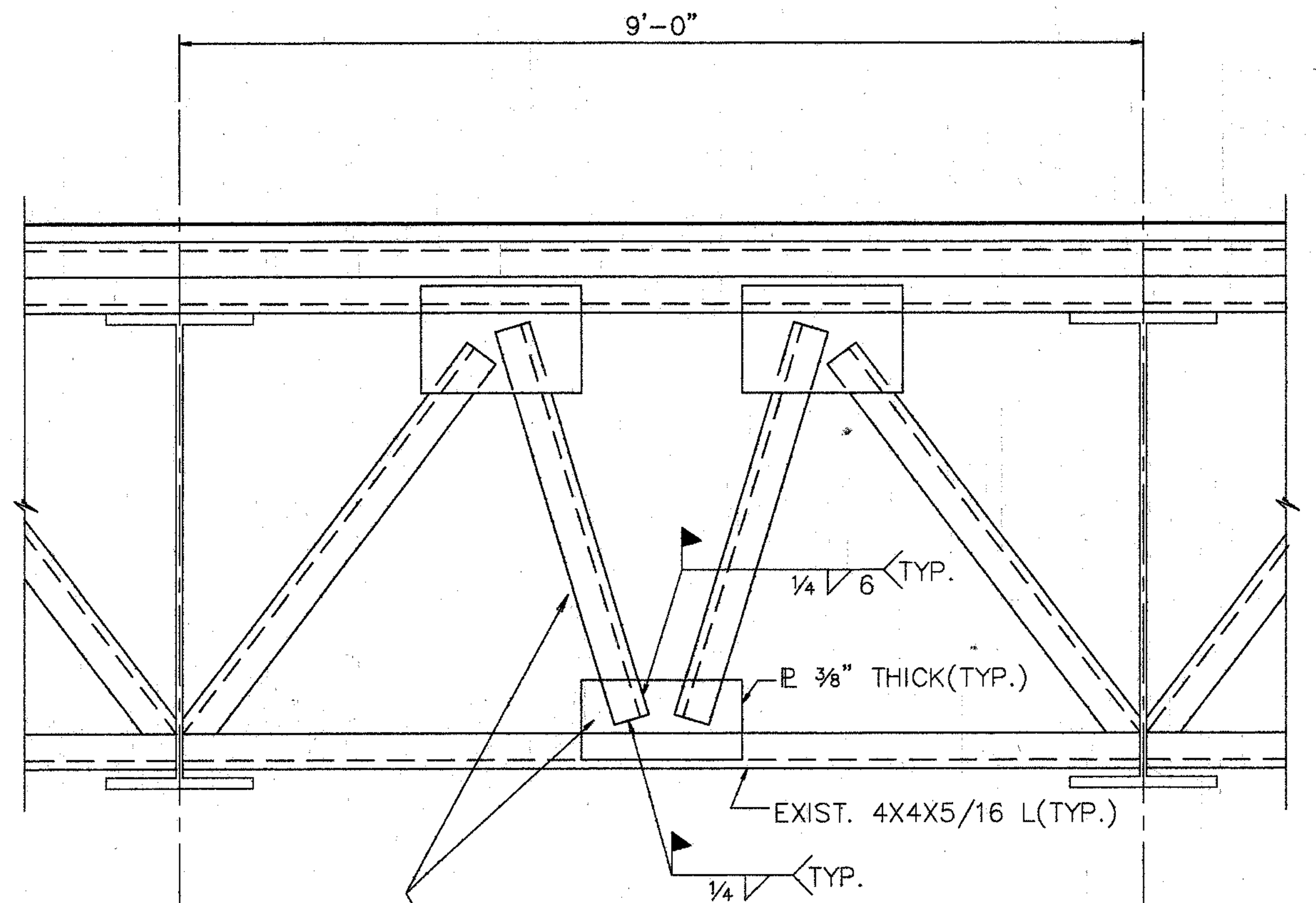
CALC. BY LATM DATE 9·23·94 / CHK'D BY DEM DATE 10·4·94	HAM-71-1.30/9.00	OHIO / F.H.W.A. REGION 5	376 / 401

REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A801	BNT.	114	4'-0"	267
REPLACEMENT STEEL				400
			TOTAL	667



A801



REMOVE EXISTING DETERIORATED ANGLE, CLEAN ANGLES AND GUSSET PLATES(THIS BAY ONLY), REWELD AND PAINT WITH EPOXY AND URETHANE. PAYMENT FOR ALL WORK SHALL BE PAID FOR AS ITEM 514 - FIELD PAINTING MISC. : FIELD PAINTING OF EXISTING STEEL, USING EPOXY AND URETHANE.

REPAIR AND PAINT EXIST. END CROSSFRAME
SCALE: 3/4"=1'-0"

ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
201	11000	LUMP SUM	L.S.	CLEARING AND GRUBING
202	11200	LUMP SUM	L.S.	PORTIONS OF STRUCTURE REMOVED
509	15820	667	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
510	12201	25	L.F.	DOWEL HOLES AS PER PLAN
511	45700	3	C.Y.	CLASS C CONCRETE, ABUTMENT, RECONSTRUCTION
SPECIAL	51267500	1337	S.Y.	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	140	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
513	21000	12	EACH	TRIMMING OF BEAM END
514	27704	LUMP SUM	L.S.	FIELD PAINTING, MISC.: FIELD PAINTING OF EXISTING STEEL, EEU *
516	14600	50		
516	10000	54	L.F.	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL (705.11)
516	11210	101	L.F.	STRUCTURAL EXP. JT., INCLUDING ELASTOMERIC STRIP SEAL
516	14600	50	L.F.	SEAL JOINT BETWEEN ABUTMENT AND CONCRETE SLOPE PROTECTION
516	45304	12	EACH	REFURBISH BEARING DEVICE
518	12800	3	EACH	SCUPPER MODIFICATION
SPECIAL	51912600	109	L.F.	CONCRETE REPAIR BY EPOXY INJECTION *
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
845	40210	1249	S.Y.	LATEX MODIFIED CONCRETE MISC. OVERLAY (1¾" THICK) ON EXIST
845	11000	85	C.Y.	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)
845	30000	1	C.Y.	FULL DEPTH REPAIR
601	21100	2	S.Y.	REPAIR CONCRETE SLOPE PROTECTION
601	20000	210	S.Y.	CRUSHED AGGREGATE SLOPE PROTECTION
653	10000	12	C.Y.	TOPSOIL FURNISHED AND PLACED
660	25000	140	S.Y.	STAKED SODDING

* SEE PROPOSAL NOTE

PROPOSED WORK

1. SCARIFY EXISTING DECK 1/4", AND REMOVE DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER.
2. REFURBISH ALL ABUTMENT BEARINGS.
3. PLACE 1¾" THICK MODIFIED CONCRETE ON DECK AND APPROACH SLAB.
4. SEAL CURBS, PARAPETS, BACKWALL AND PIERS.
5. SEAL JOINTS, AS NOTED.
6. SEAL EXPANSION JOINT WITH STRIP SEAL.
7. TRIM BEAM ENDS.
8. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION AND ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTENANCE OF TRAFFIC PLANS. MAINTENANCE OF TRAFFIC PLAN REQUIRES CONSTRUCTION PHASING LIMITS AT LANE CENTERLINES. DUE TO THESE LIMITS, OVERLAY MAY REQUIRE SPECIAL ATTENTION.
9. FILL CRACKS IN BACK WALL WITH EPOXY.
10. RECONSTRUCT EAST ABUTMENT BACKWALL ABOVE APPROACH SLAB SEAT.
11. REPAIR SLOPE PROTCTION EAST ABUTMENT.
12. OTHER WORK AS DESCRIBED IN THESE PLANS.

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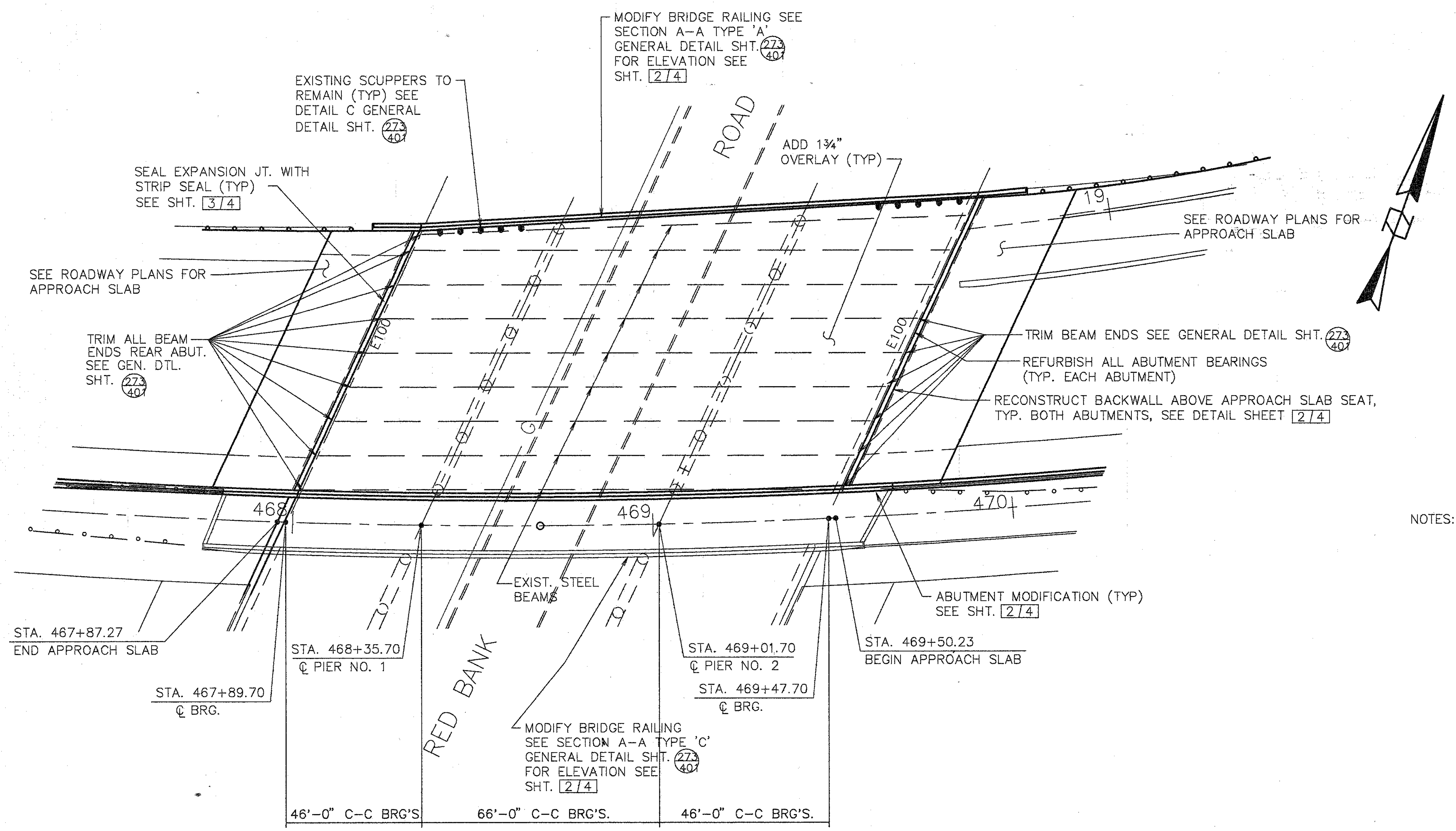
QUANTITIES AND GENERAL NOTES

BRIDGE NO. HAM-71-0289
OVER I-71

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	11/11/94	

Last Plot MAY 21, 1991 @ 10:33 AM
G:\STR\18596-03\0289SHT3 Last Revision By: D.E.E. APR. 12, 1994 @ 11:22 AM

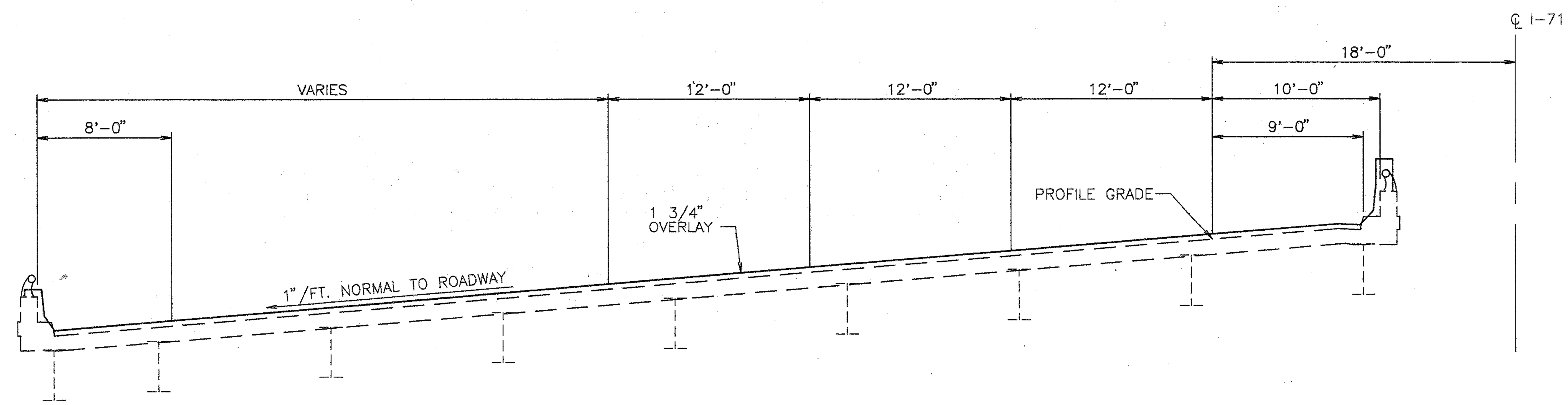


PLAN

SLIDING OR FIXED ℙ SIZE	JACK CAPACITY REQ'D. (MIN)
E100	75 TON

NOTES:

1. EXTEND ALL SCUPPERS—FOR DETAIL SEE GENERAL DETAIL SHEET. 273/401
2. SEAL PARAPETS, BACKWALLS AND PIERS. SEAL ALL OF PIERS EXCEPT TOP OF PIER CAP.
3. SEE JUNCTION BOX EXTENSION DETAIL GENERAL DETAIL SHT. FOR BARRIER RETROFIT AT JUNCTION BOXES. FOR TYPE AND LOCATION REFER TO LIGHTING DETAILS.



TYP. BRIDGE SECTION

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: 46'-0", 66'-0", 46'-0"
ROADWAY: VARIES
SKEW: 24°54'00" LT. FORWARD
LOADING FREQUENCY: C.F.=2000 (57) ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: 3°-00' CURVE TO THE LEFT
SUPERELEVATION: 1"/FT.

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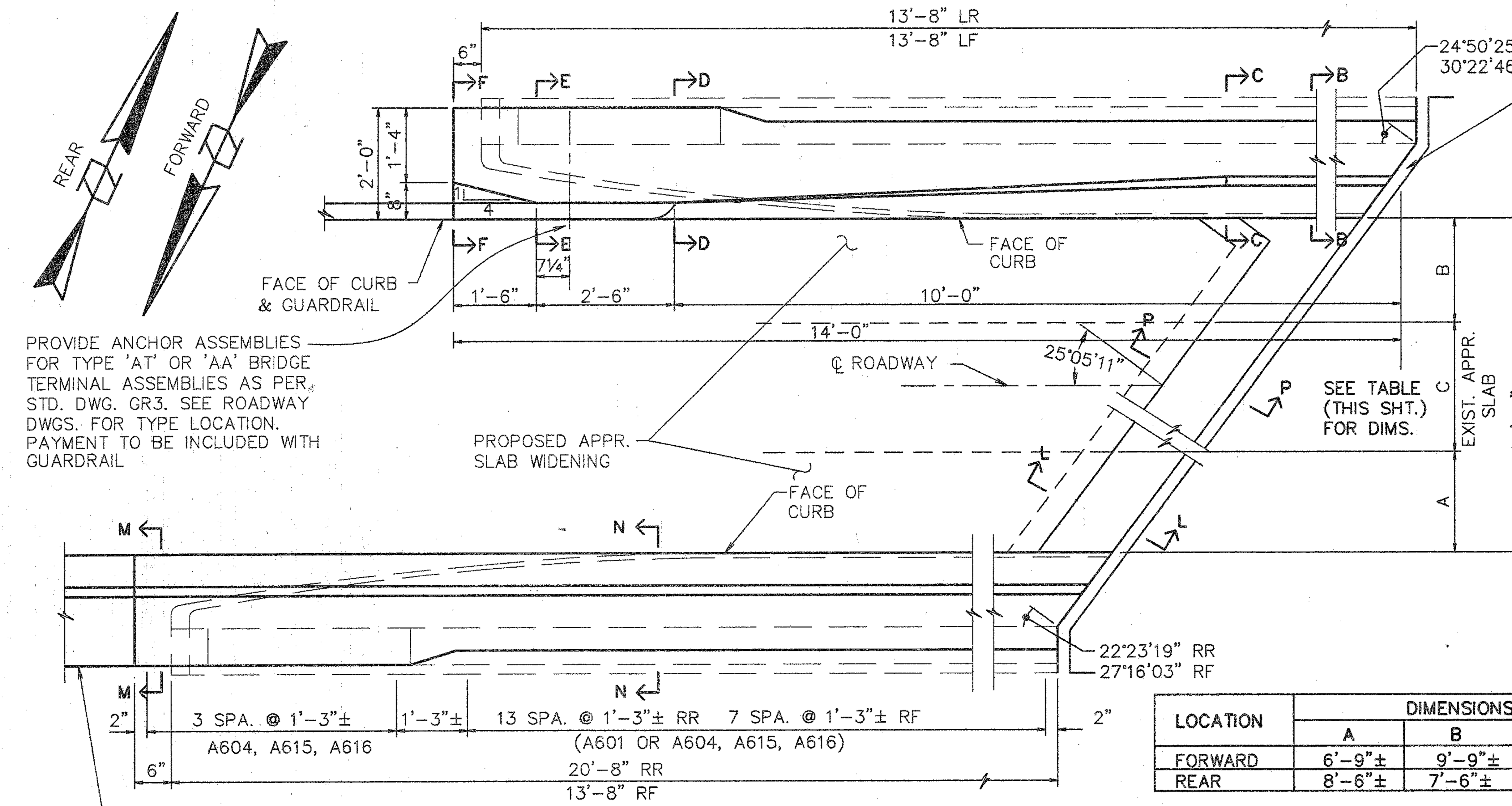
GENERAL PLAN

BRIDGE NO. HAM-71-0965 L
OVER RED BANK ROAD

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	1/11/94	

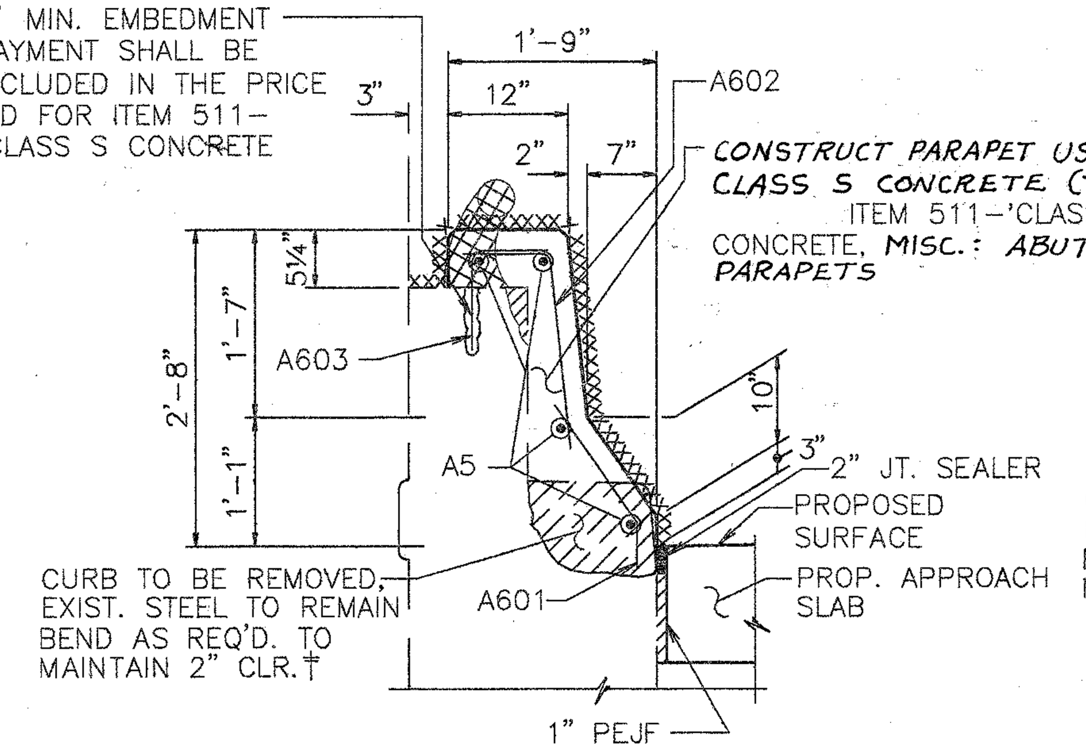
CALC. BY L.A.T.M. DATE 9-23-93
CHK'D BY D.E.M. DATE 10-4-93



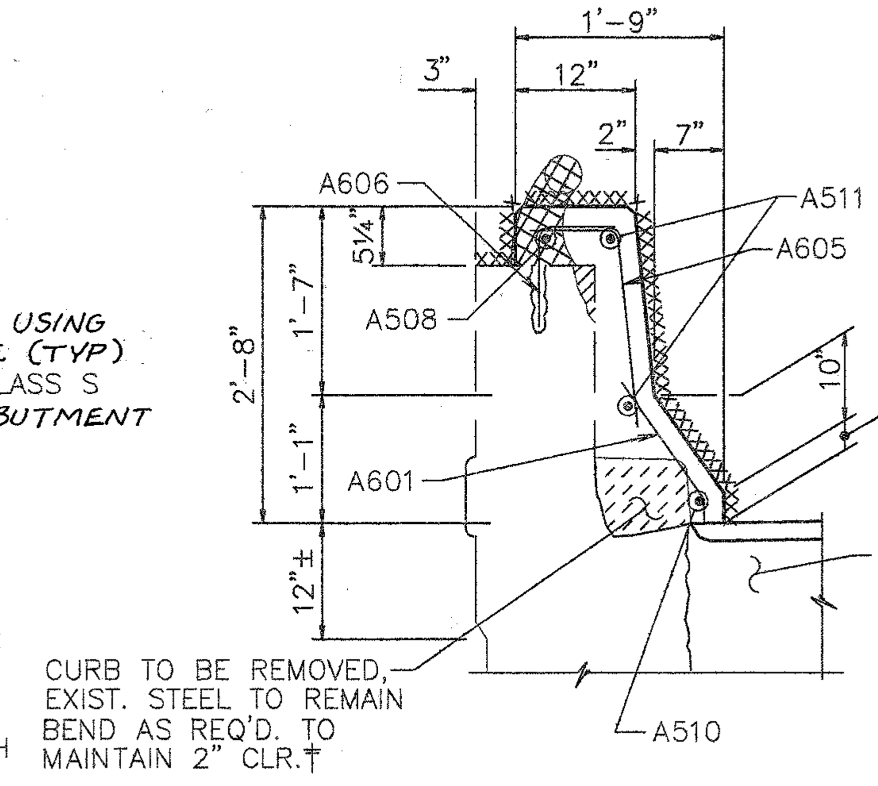
PLAN – ABUTMENT MODIFICATION

(REAR SHOWN, FWD. OPPOSITE HAND)

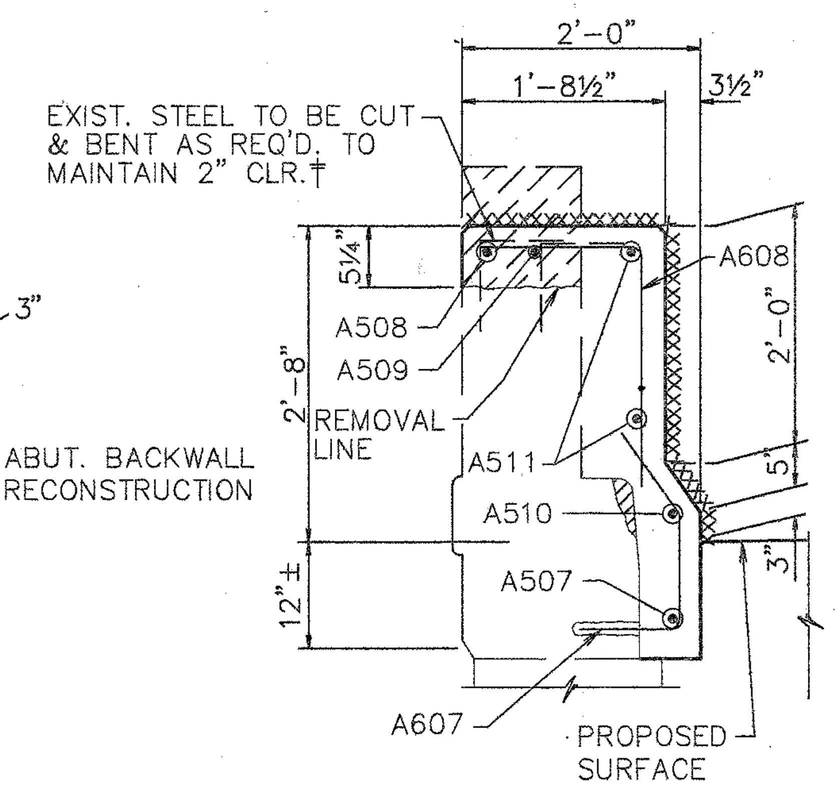
LOCATION	DIMENSIONS A	B	C
FORWARD	6'-9"±	9'-9"±	62'-6"
REAR	8'-6"±	7'-6"±	56'-0"



SECTION C–C

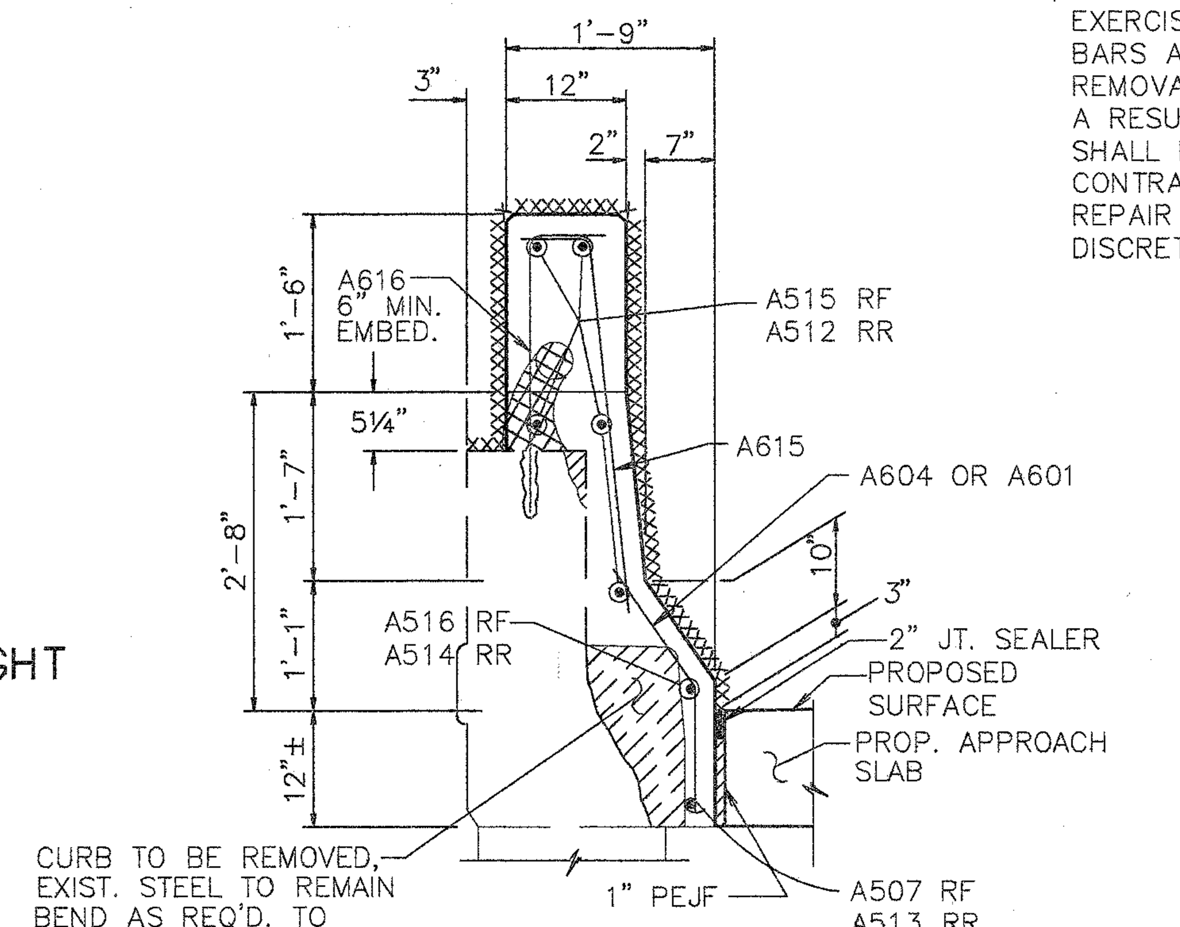


SECTION B–B

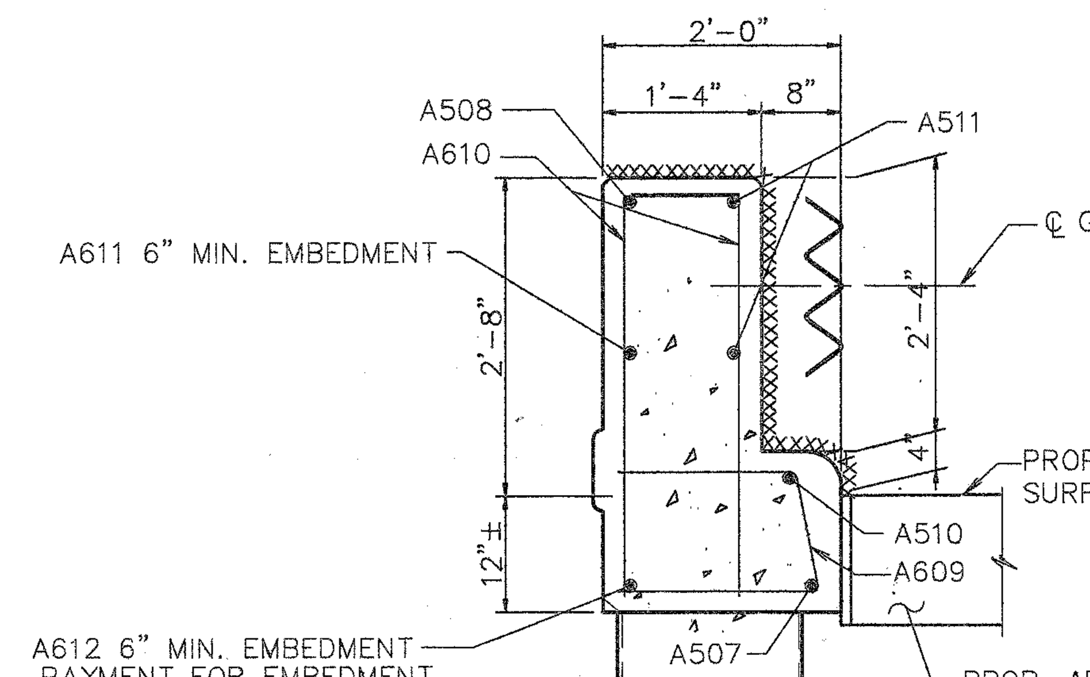


SECTION D–D

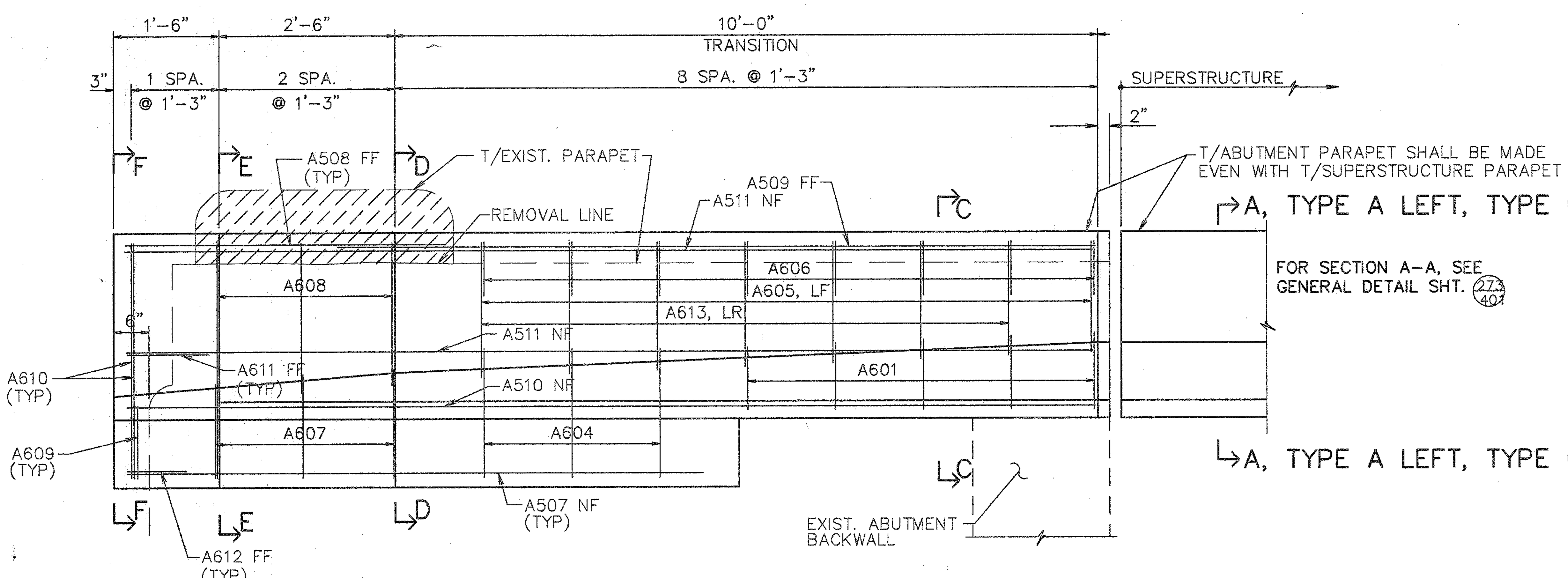
†BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONC. REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.



SECTION N–N



SECTION F–F

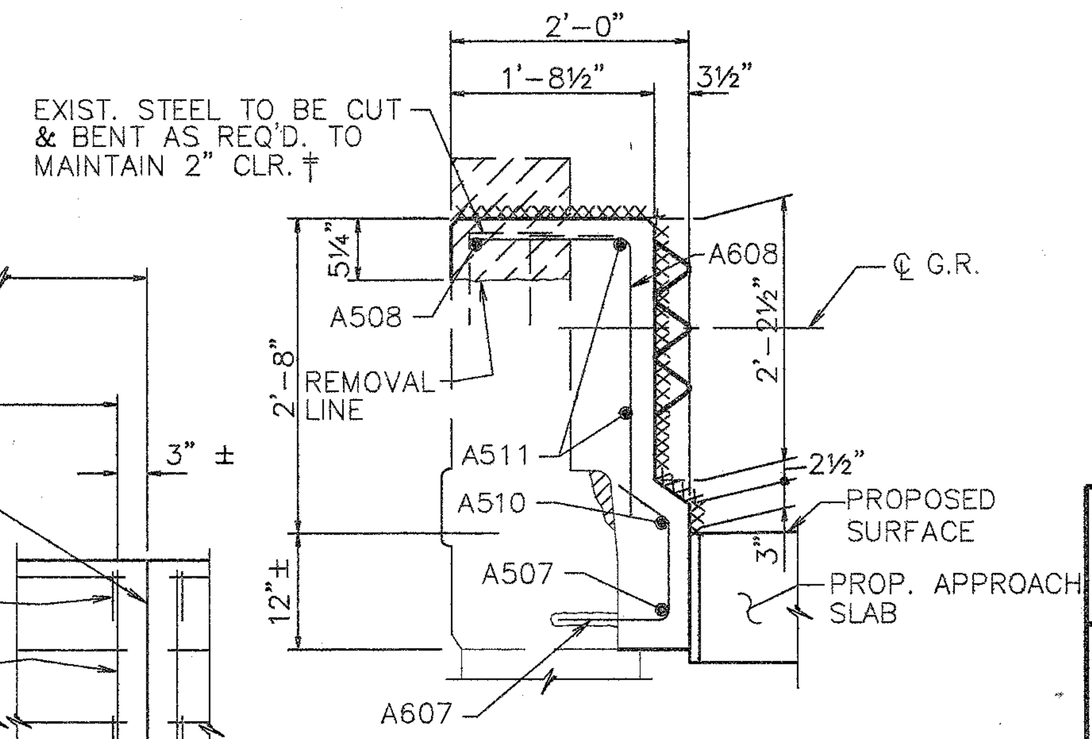


A, TYPE A LEFT, TYPE C RIGHT

FOR SECTION A-A, SEE GENERAL DETAIL SHT. 273/401

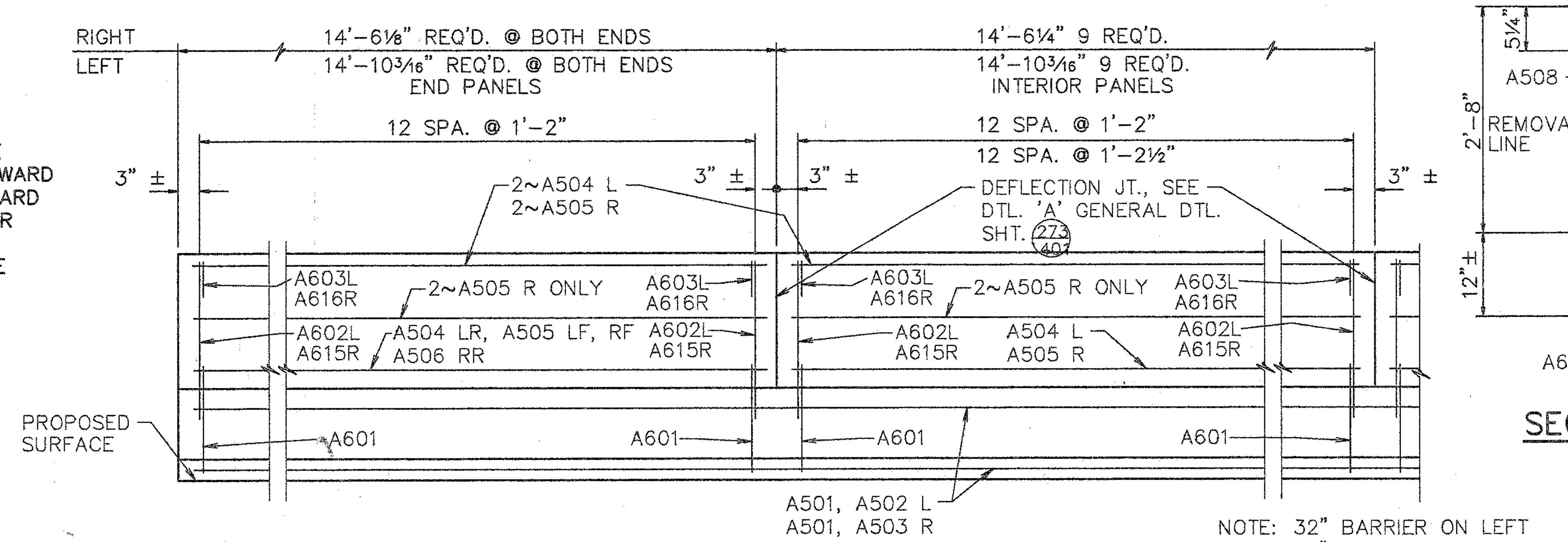
A, TYPE A LEFT, TYPE C RIGHT

ELEVATION – LEFT WALL



SECTION E–E

FOR DETAILS NOT SHOWN SEE SHT. 3/4



NOTE: 32" BARRIER ON LEFT
50" BARRIER ON RIGHT

ELEVATION SUPERSTRUCTURE PARAPET

////// EXIST. CURB & PARAPET TO BE REMOVED UNDER ITEM 202-'PORTIONS OF STRUCTURES REMOVED'.

XXXXXX EXIST. RAILING & POSTS TO BE REMOVED & STACKED NEATLY ALONG THE RIGHT-OF-WAY FOR DISPOSAL BY THE CONTRACTOR. ALL WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202-'PORTIONS OF STRUCTURE REMOVED'.

xxxxxx SURFACES TO BE SEALED UNDER ITEM SPECIAL-'SEALING OF CONCRETE SURFACES.

NOTES:

L DENOTES LEFT SIDE
R DENOTES RIGHT SIDE
RF DENOTES RIGHT FORWARD
LF DENOTES LEFT FORWARD
RR DENOTES RIGHT REAR
LR DENOTES LEFT REAR
NF DENOTES NEAR FACE
FF DENOTES FAR FACE

NOTES:

1. TYPE 'A' WATERPROOFING AT THE BRIDGE LIMIT END OF THE APPROACH SLAB (AS PER STD. DWG. AS-1-81) SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611 APPROACH SLAB.

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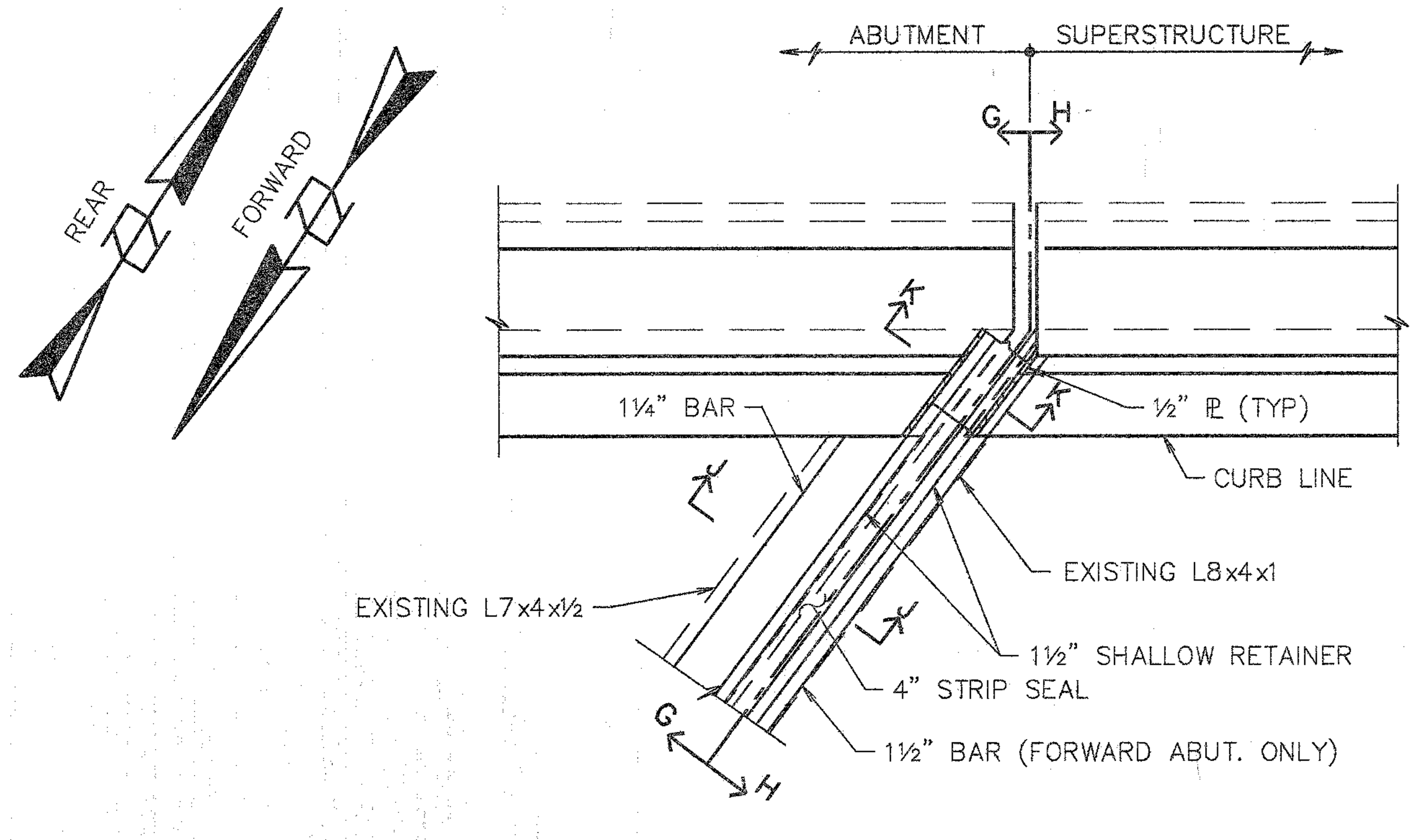
PARAPET SECTIONS AND DETAILS

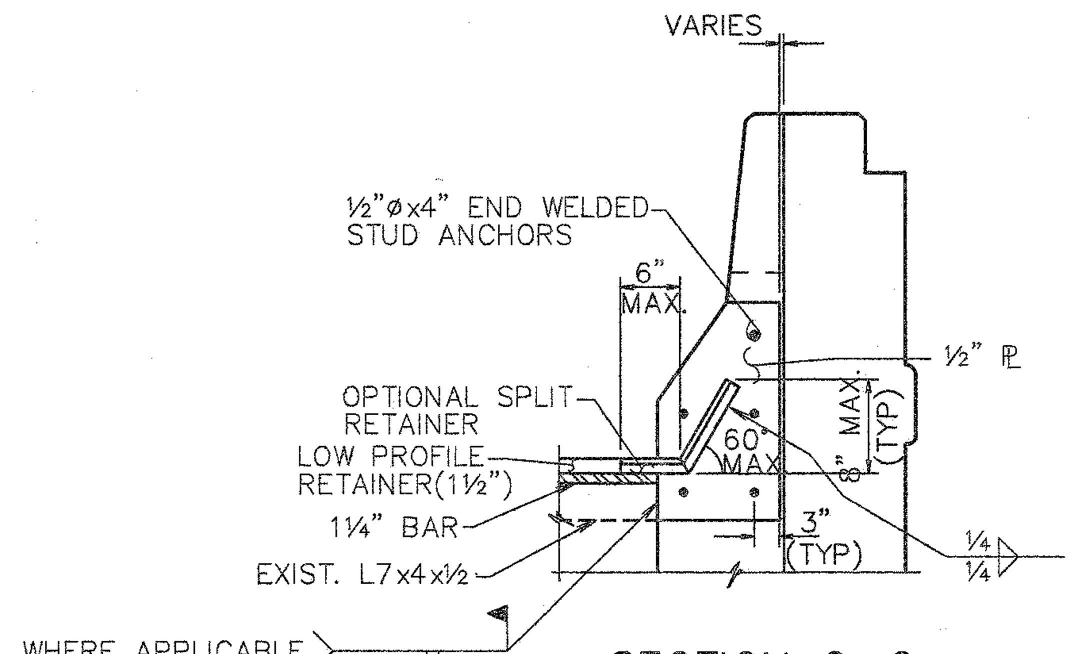
BRIDGE NO. HAM-71-0965 L
OVER RED BANK ROAD

HAMILTON COUNTY

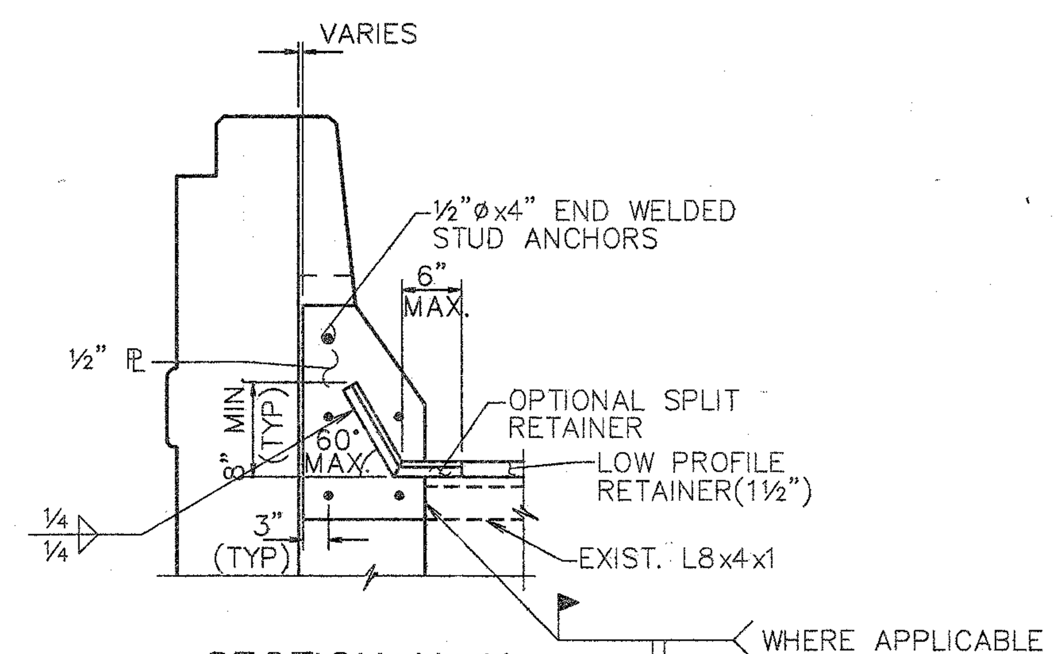
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	1/11/94	



PART PLAN @ ABUTMENTS



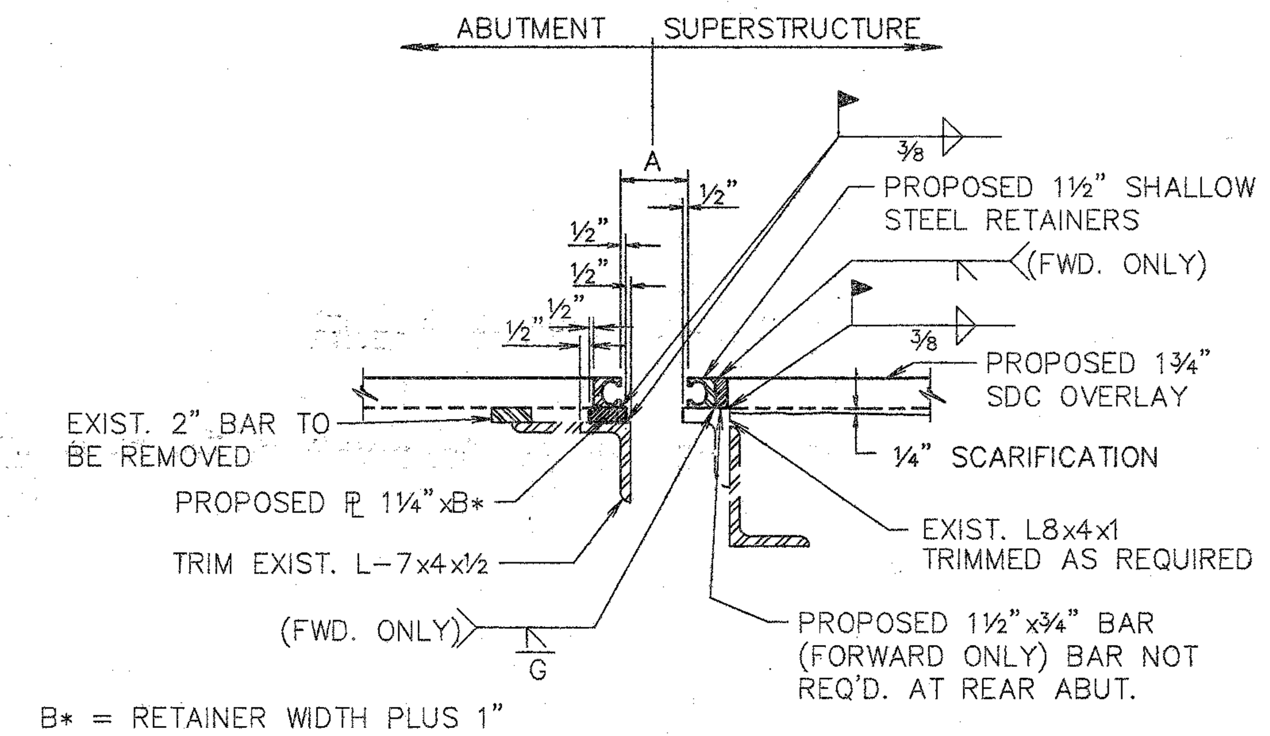
SECTION G-G



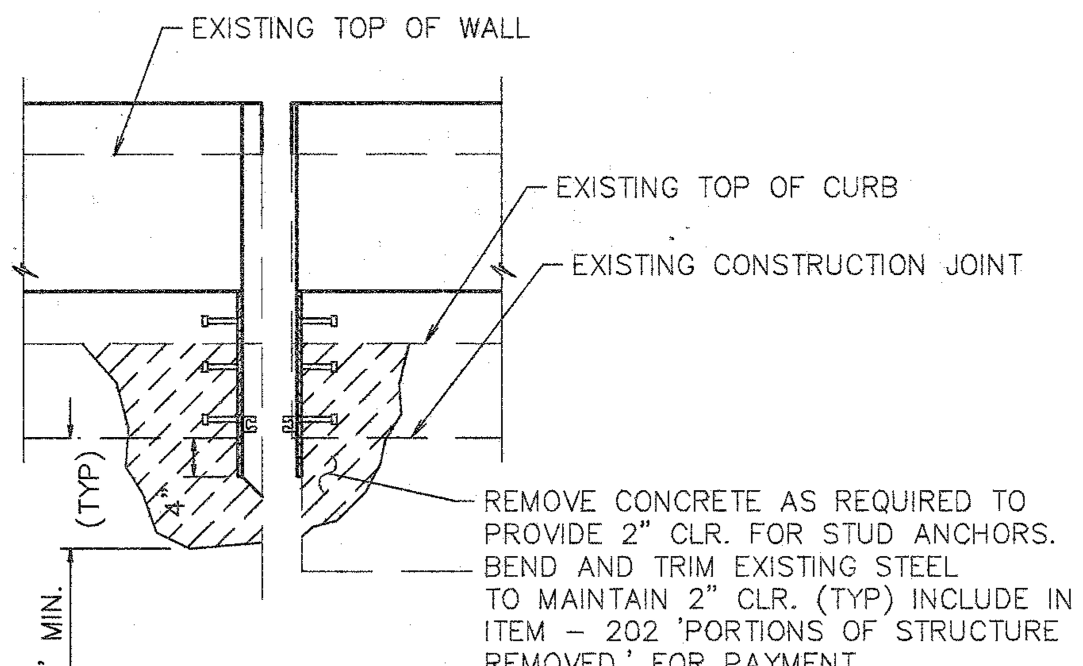
SECTION H-H

NOTES:

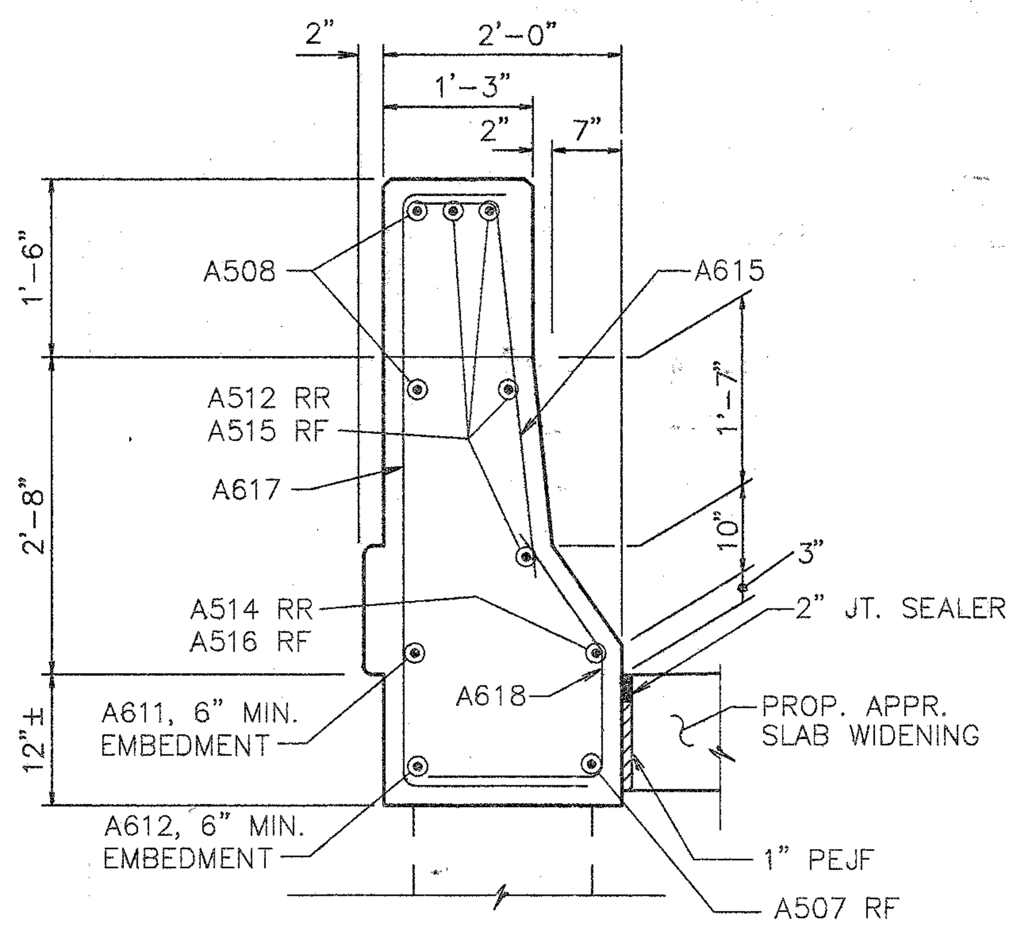
1. EXPANSION JT. DETAILS TO BE WORKED WITH STD. DWG. EXJ-4-87 SHTS. 1 thru 5.
2. WHEN PLATE IS RECESSED INTO ABUTMENT, CONCRETE BELOW PLATE SHALL BE SLOPED FROM BOTTOM OF THE PLATE TO THE END OF THE ABUTMENT TO DETER ACCUMULATION OF DEBIS.



SECTION J-J



SECTION K-K

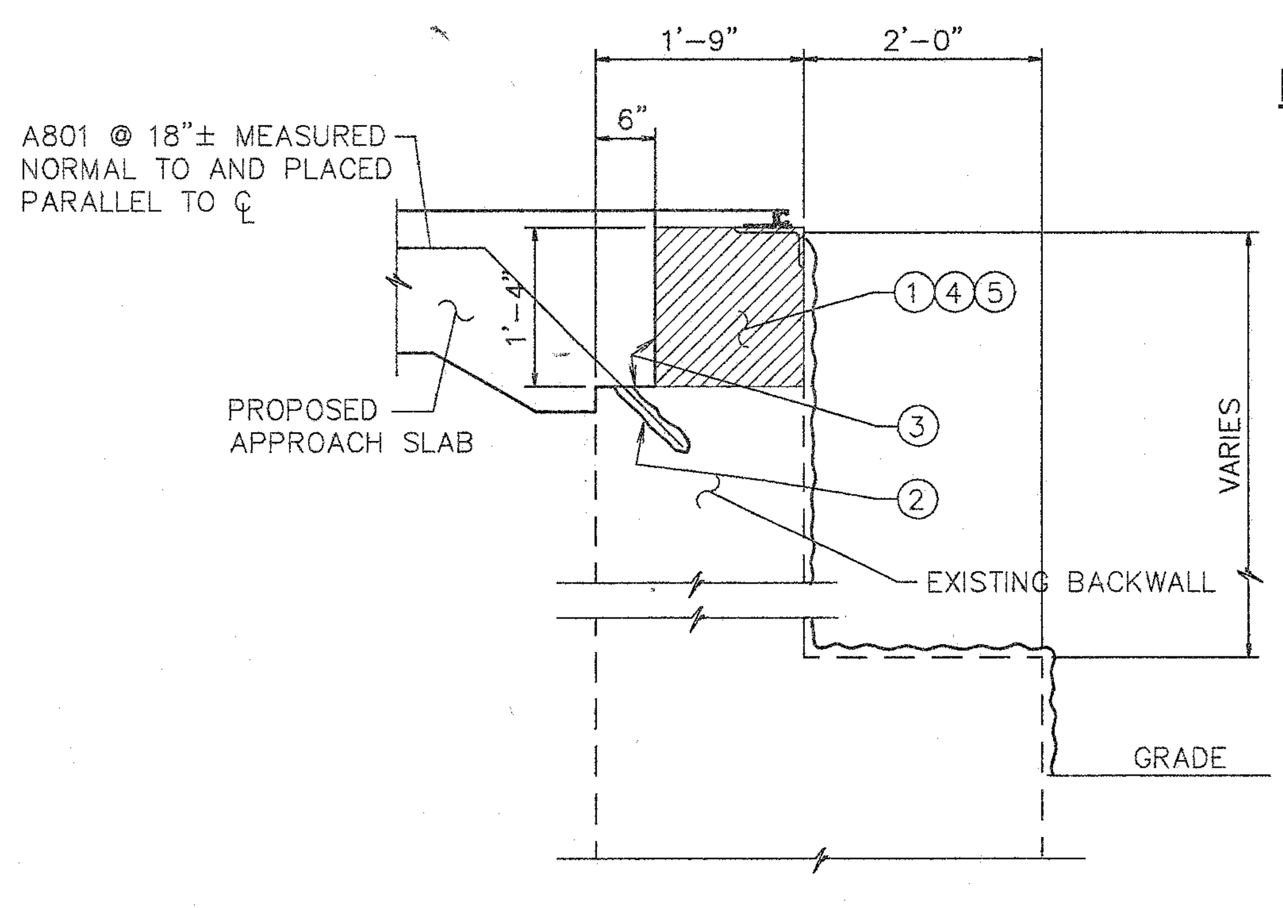


SECTION M-M

NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO MODIFYING EXPANSION JOINT.
2. THE PRICE BID FOR ITEM 516-'STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS, SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY OTHER INCIDENTIAL ITEMS, AS DETAILED. (REMOVAL OF CURB OR PARAPET AS SHOWN SHALL BE INCLUDED UNDER ITEM 202- 'PORTIONS OF STRUCTURE REMOVED').
3. FOR DETAILS NOT SHOWN REFER TO DWG. EXJ-4-87 SHTS. 3 AND 4.
4. STRIP SEAL TO BE INSTALLED IN ONE CONTINUOUS PIECE (NO OPEN JOINTS).
5. PROVIDE TEMPORARY SUPPORT FOR ABUTMENT END DAM DURING CONSTRUCTION. REMOVE TEMPORARY SUPPORT AS SOON AS CONCRETE HAS SET, PREFERABLY WITHIN TWO HOURS AFTER PLACING TO AVOID DAMAGE DUE TO EXPANSION AND CONTRACTION OF SUPERSTRUCTURE.

TEMPERATURE	DIM. 'A' REAR	DIM. 'A' FORWARD
40° F	3½"	3⅛"
50° F	3⅜"	3⅛"
60° F	3¼"	3⅛"
70° F	3¼"	3"
80° F	3⅛"	3"
90° F	3"	3"



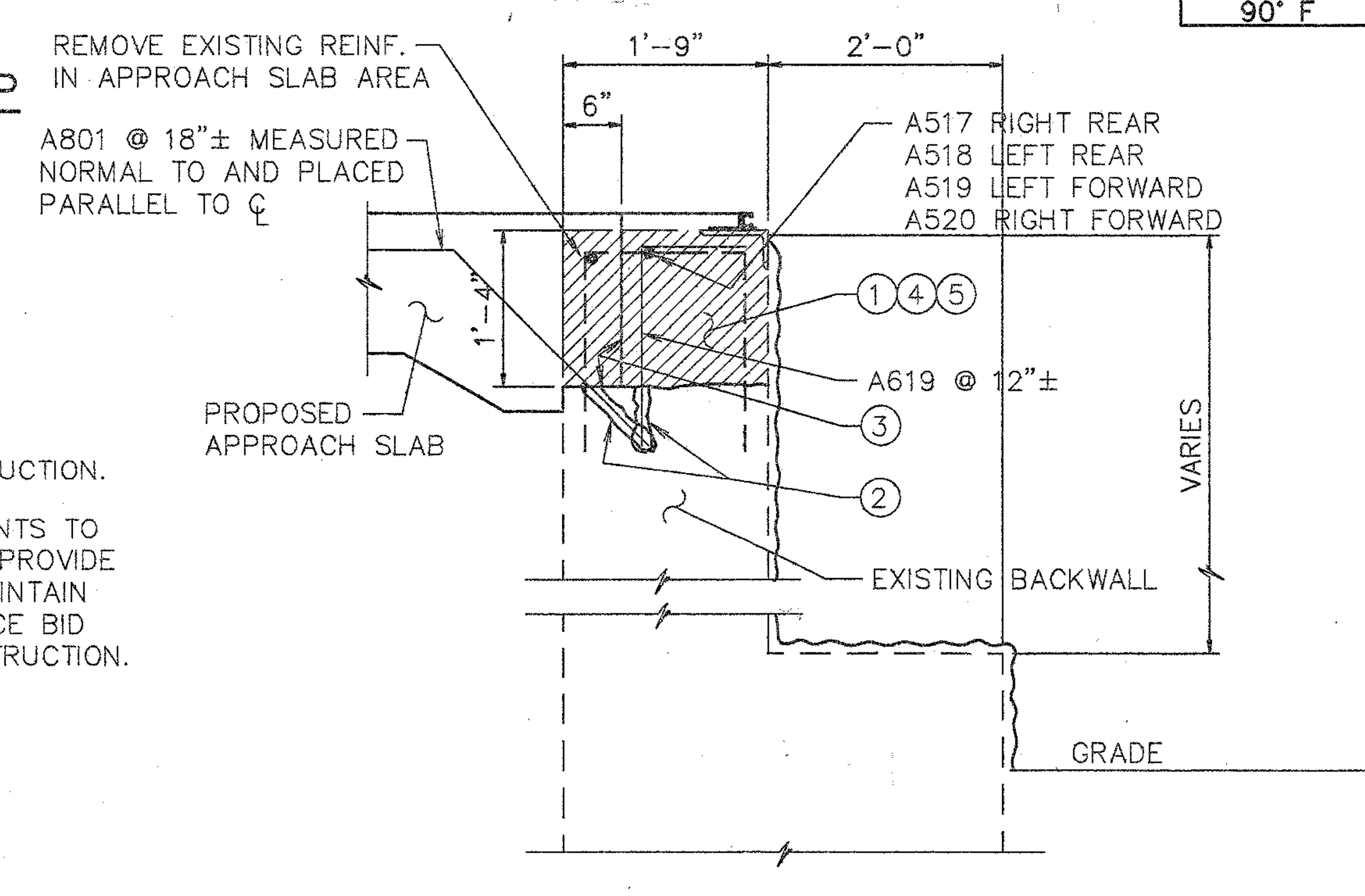
SECTION P-P

NOTES FOR SECTION L-L & P-P

1. EXISTING REINFORCING STEEL TO REMAIN ~ REINFORCING STEEL DAMAGED TO BE REPLACED AT CONTRACTORS EXPENSE.
2. 1' MIN. EMBEDMENT (SEE DOWEL HOLE GENERAL NOTE) ITEM 510.
3. TYPE 'A' WATERPROOFING (PAYMENT INCLUDED IN THE PRICE BID FOR APPROACH SLAB).
4. CLASS 'C' CONCRETE, ABUTMENT RECONSTRUCTION.
5. PROVIDE CONTRACTION AND EXPANSION JOINTS TO MATCH THOSE IN EXISTING BACKWALL AND PROVIDE CONSTRUCTION JOINTS AS REQUIRED TO MAINTAIN TRAFFIC. PAYMENT TO BE INCLUDED IN PRICE BID FOR ITEM 511 CLASS C CONCRETE RECONSTRUCTION.

EXISTING CONCRETE TO BE REMOVED INCLUDE IN ITEM 202 FOR PAYMENT.

SURFACE TO BE SEALED UNDER ITEM SPECIAL- 'SEALING OF CONCRETE SURFACE, EPOXY'.



SECTION L-L

SEE NOTES ON SHT. 2/4

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MISCELLANEOUS DETAILS

BRIDGE NO. HAM-71-0965 L
OVER RED BANK ROAD

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 1/11/94	

Last Plot: MAY 15, 1991 @ 5:50 PM Last Revision By: RACH OCT. 6, 1992 @ 2:54 PM

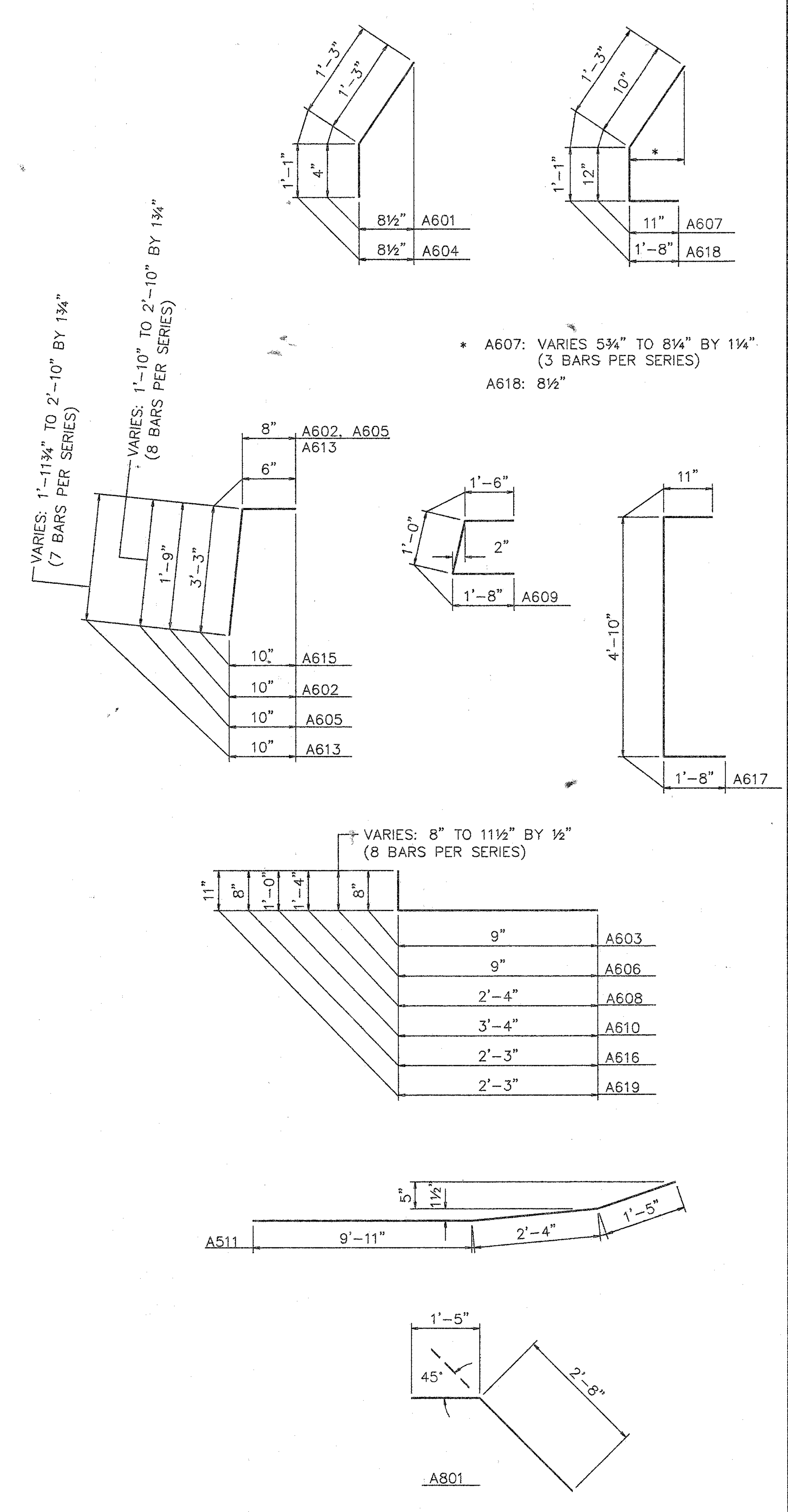
REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A501	STR.	20	30'-0"	626
A502	STR.	2	23'-0"	48
A503	STR.	2	19'-9"	41
A504	STR.	32	14'-4"	478
A505	STR.	55	14'-2"	813
A506	STR.	1	14'-0"	15
A507	STR.	3	8'-0"	25
A508	STR.	6	5'-0"	31
A509	STR.	2	11'-0"	23
A510	BNT.†	2	13'-8"	28
A511	BNT.	4	13'-8"	57
A512	STR.	4	20'-8"	86
A513	STR.	1	14'-2"	15
A514	STR.	1	21'-0"	22
A515	STR.	4	13'-10"	58
A516	STR.	1	13'-6"	14
A517	STR.	1	12'-9"	13
A518	STR.	1	10'-9"	11
A519	STR.	1	11'-1"	12
A520	STR.	1	13'-2"	14
A601	BNT.	314	1'-6"	707
A602	BNT.	142	2'-5"	515
A603	BNT.	143	1'-3"	268
A604	BNT.	12	2'-3"	41
A605	BNT.	8	2'-6" to 3'-6"	36
A606	BNT.	16	1'-3" to 1'-6"	34
A607	BNT.	6	2'-6"	22
A608	BNT.	6	3'-6"	32
A609	BNT.	2	3'-10"	12
A610	BNT.	4	4'-2"	25
A611	STR.	4	1'-2"	7
A612	STR.	4	10"	5
A613	BNT.	7	2'-7¾" to 3'-6"	32
A614	NOT USED			
A615	BNT.	172	3'-7"	926
A616	BNT.	171	2'-9"	706
A617	BNT.	2	7'-1"	21
A618	BNT.	2	3'-9"	11

REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A619	BNT.	40	3'-0"	126
A801	BNT.	101	4'-0"	1079
REPLACEMENT STEEL				300
			TOTAL	7335

BENT BAR DETAILS



† BEND IN FIELD AS REQUIRED.

ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	L.S.	PORTIONS OF STRUCTURE REMOVED
509	15820	7335	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
510	12201	141	L.F.	DOWEL HOLES, AS PER PLAN
511	34450	10	C.Y.	CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
511	45700	12	C.Y.	CLASS C CONCRETE, ABUTMENT RECONSTRUCTION
514	27704	LUMP	L.S.	FIELD PAINTING EXISTING STEEL, EEU *
SPECIAL	51267500	909	S.Y.	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	149	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
513	21000	15	EACH	TRIMMING OF BEAM END
516	11210	170	L.F.	STRUCTURAL EXP. JT., INCLUDING ELASTOMERIC STRIP SEAL
516	45304	18	EACH	REFURBISH BEARING DEVICE
516	14600	26	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2"x4" SEALER, AS PER PLAN
519	11100	27	S.F.	PATCHING CONCRETE STRUCTURE
517	76201	164	L.F.	RAILING FACED, AS PER PLAN (32" HIGH)
517	76201	160	L.F.	RAILING FACED, AS PER PLAN (50" HIGH)
518	12700	9	EACH	SCUPPER, VERTICAL EXTENSION
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
625				FOR LIGHTING SUMMARY SEE LIGHTING PLANS.
845	40210	1370	S.Y.	LATEX MODIFIED CONCRETE MISC OVERLAY (1¾" THICK) ON EXISTING DECK
845	11000	13	C.Y.	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)
845	30000	1	C.Y.	FULL DEPTH REPAIR

* SEE PROPOSAL NOTE

PROPOSED WORK

1. MODIFY PARAPETS ON THE SUPERSTRUCTURE & ABUTMENTS. (INSTALL PLATES FOR STRIP SEAL EXP. JT.).
2. SCARIFY EXISTING DECK ¼", AND REMOVE DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER.
3. REFURBISH ALL ABUTMENT BEARINGS.
4. PLACE 1¾" THICK LATEX MODIFIED CONCRETE ON DECK.
5. SEAL PARAPETS, PIERS, AND BACKWALL.
6. RECONSTRUCT ABUTMENT BACKWALL ABOVE APPROACH SLAB SEAT.
7. SEAL EXPANSION JOINT WITH STRIP SEAL.
8. REPLACE GUARDRAIL AS SHOWN ON ROADWAY PLANS.
9. TRIM BEAM ENDS TO 2" CLEARANCE. (OR AS CLOSE TO 2" AS POSSIBLE)
10. EXTEND SCUPPERS TO 8" BELOW BRIDGE BEAMS.
11. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION AND ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTAINANCE OF TRAFFIC PLANS. MAINTENANCE OF TRAFFIC PLAN REQUIRES CONSTRUCTION PHASING LIMITS AT LANE CENTERLINES. DUE TO THESE LIMITS, OVERLAY MAY REQUIRE SPECIAL ATTENTION.
12. OTHER WORK AS DESCRIBED IN THESE PLANS.

WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660

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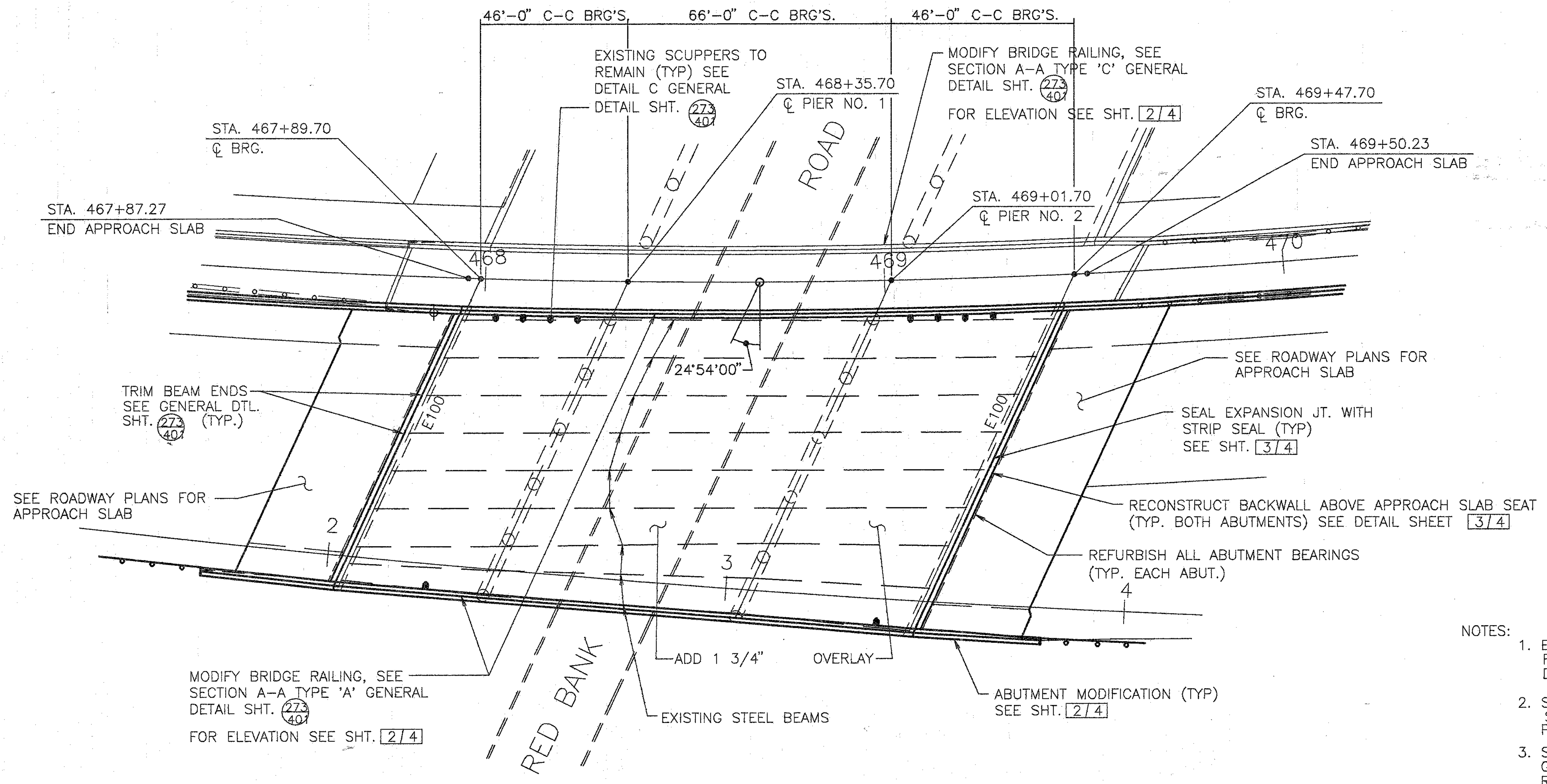
QUANTITIES AND GENERAL NOTES

BRIDGE NO. HAM-71-0965 L
OVER RED BANK ROAD

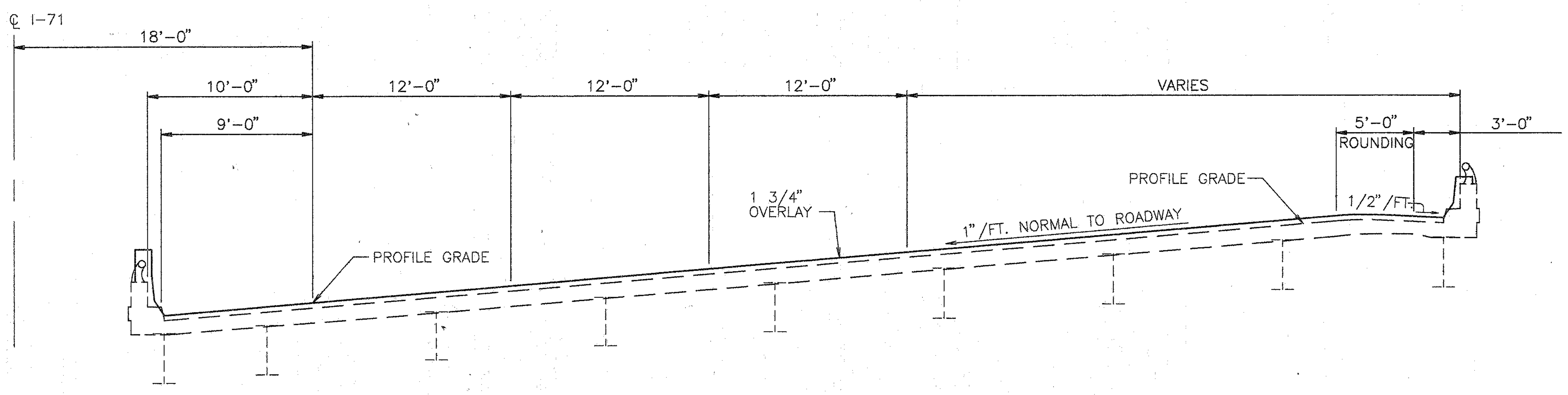
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	11/11/94	



SLIDING OR FIXED ℄ SIZE	JACK CAPACITY REQ'D. (MIN)
E100	75 TON

NOTES:
1. EXTEND ALL SCUPPERS– FOR DETAIL SEE GENERAL DETAIL SHEET. 273/401
2. SEAL PARAPETS, BACKWALLS AND PIERS. SEAL ALL OF PIERS EXCEPT TOP OF PIER CAP.
3. SEE JUNCTION BOX EXTENSION DETAIL GENERAL DETAIL SHT. FOR BARRIER RETROFIT AT JUNCTION BOXES. REFER TO LIGHTING DETAILS TYPE AND LOCATION.



TYP. BRIDGE SECTION

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: 46'-0", 66'-0", 46'-0"
ROADWAY: VARIES
SKEW: 24°54'00" LT. FORWARD
LOADING FREQUENCY: C.F.=2000 (57) ADEQUATE FOR AASHO ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: 3'-00' CURVE TO THE LEFT
SUPERELEVATION: 1"/FT.

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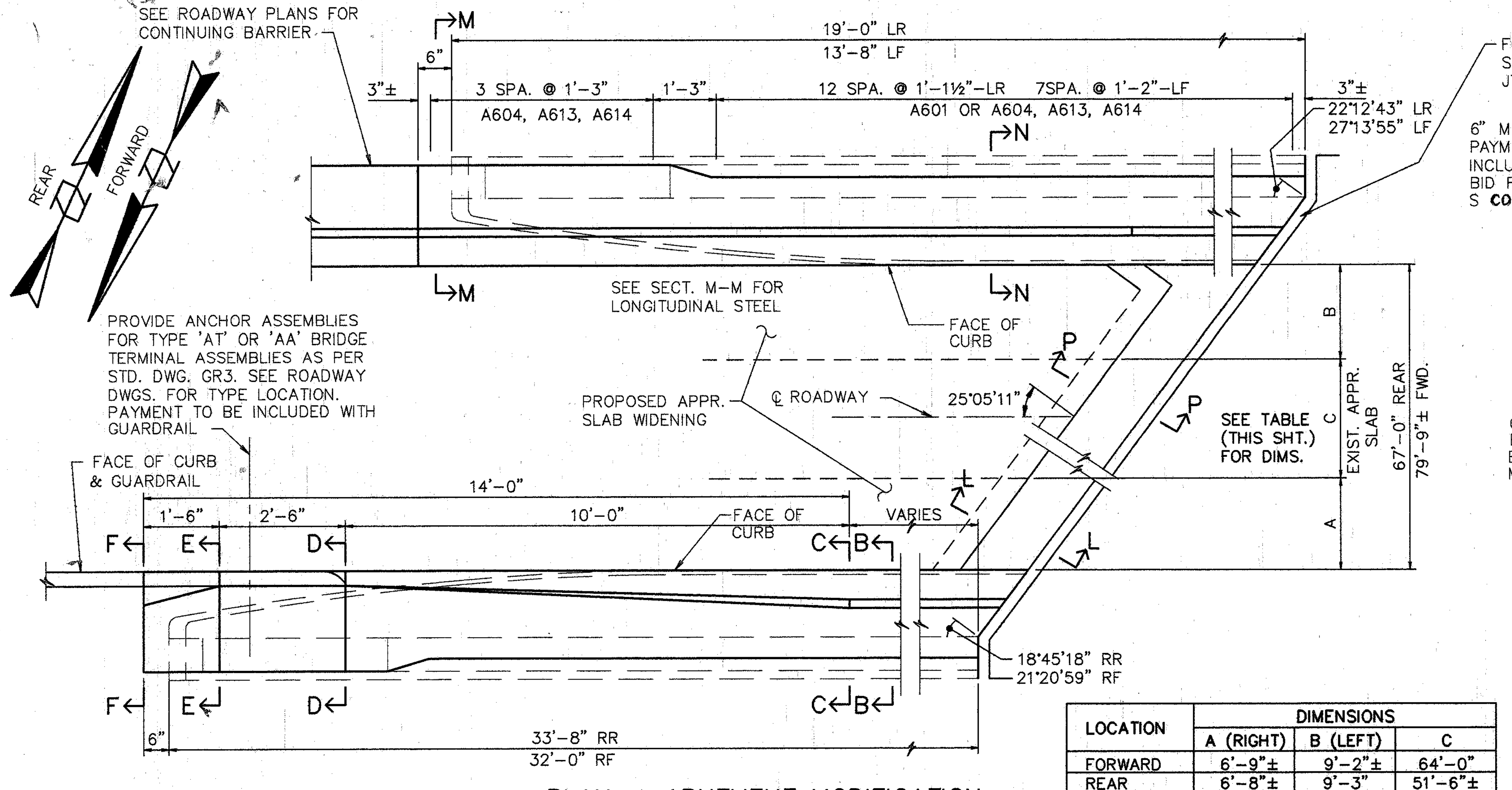
GENERAL PLAN

BRIDGE NO. HAM-71-0965R
OVER RED BANK ROAD

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	1/11/94	

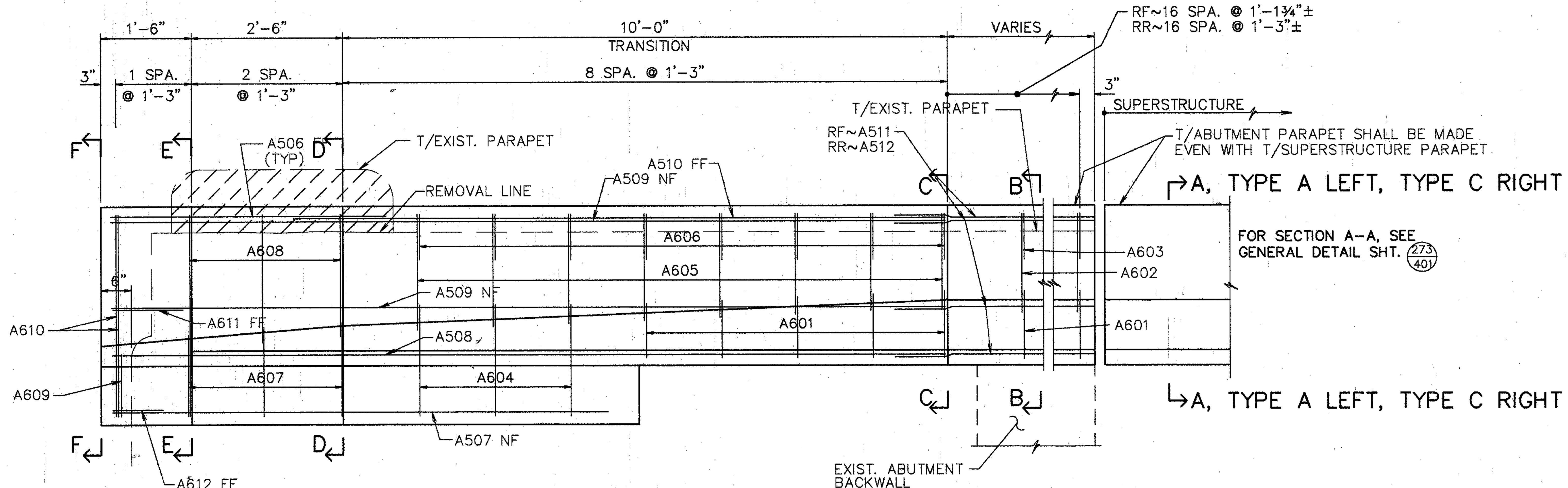
CALC BY L.A.T.M. DATE 1-25-93 / CHK'D BY D.E.M.	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	382/401



PLAN – ABUTMENT MODIFICATION

(REAR SHOWN, FWD. OPPOSITE HAND SAME SKEW)

LOCATION	DIMENSIONS A (RIGHT)	B (LEFT)	C
FORWARD	6'-9"±	9'-2"±	64'-0"
REAR	6'-8"±	9'-3"	51'-6"±



ELEVATION – RIGHT WALL

EXIST. CURB & PARAPET TO BR REMOVED UNDER ITEM 202-'PORTIONS OF STRUCTURE REMOVED'.

EXIST. RAILING & POSTS TO BE REMOVED & STACKED NEATLY ALONG THE RIGHT-OF-WAY FOR DISPOSAL BY THE CONTRACTOR. ALL WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202-'PORTIONS OF STRUCTURE REMOVED'.

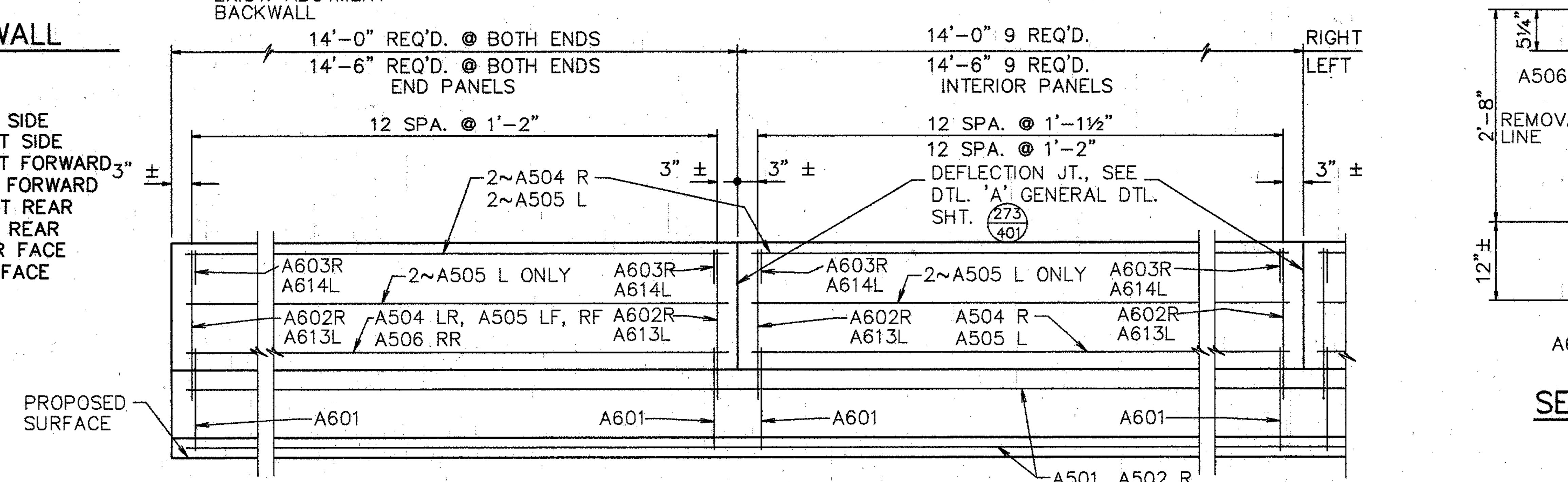
XXXXXX SURFACES TO BE SEALED UNDER ITEM SPECIAL-'SEALING OF CONCRETE SURFACES.

NOTES:

- L DENOTES LEFT SIDE
- R DENOTES RIGHT SIDE
- RF DENOTES RIGHT FORWARD
- LF DENOTES LEFT FORWARD
- RR DENOTES RIGHT REAR
- LR DENOTES LEFT REAR
- NF DENOTES NEAR FACE
- FF DENOTES FAR FACE

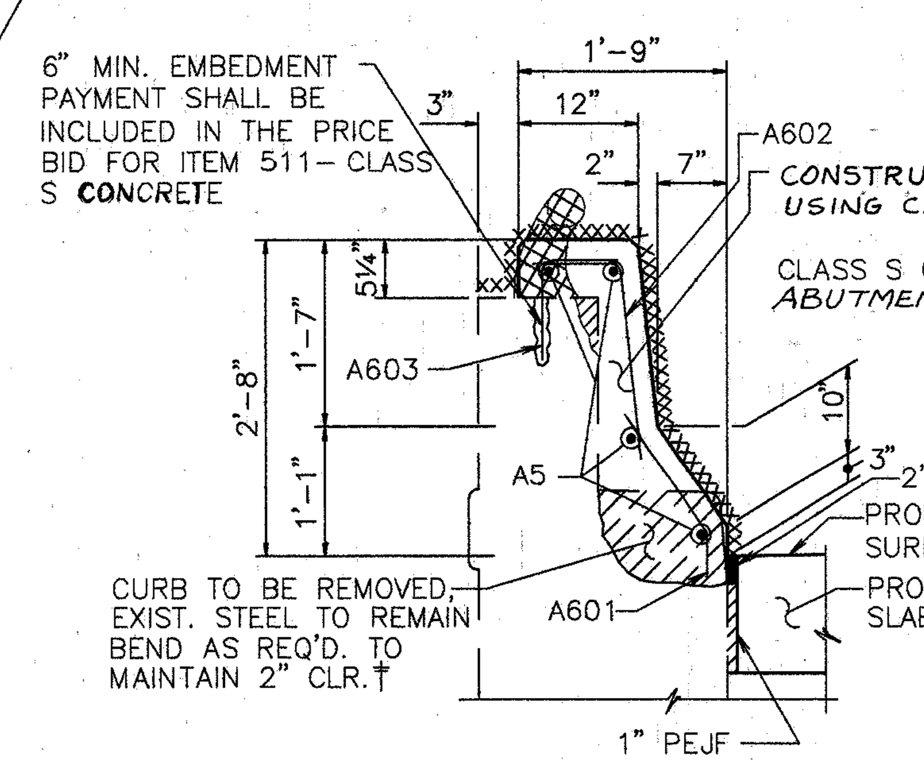
NOTES:

1. TYPE 'A" WATERPROOFING AT THE BRIDGE LIMIT END OF THE APPROACH SLAB (AS PER STD. DWG. AS-1-81) SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611 APPROACH SLAB.

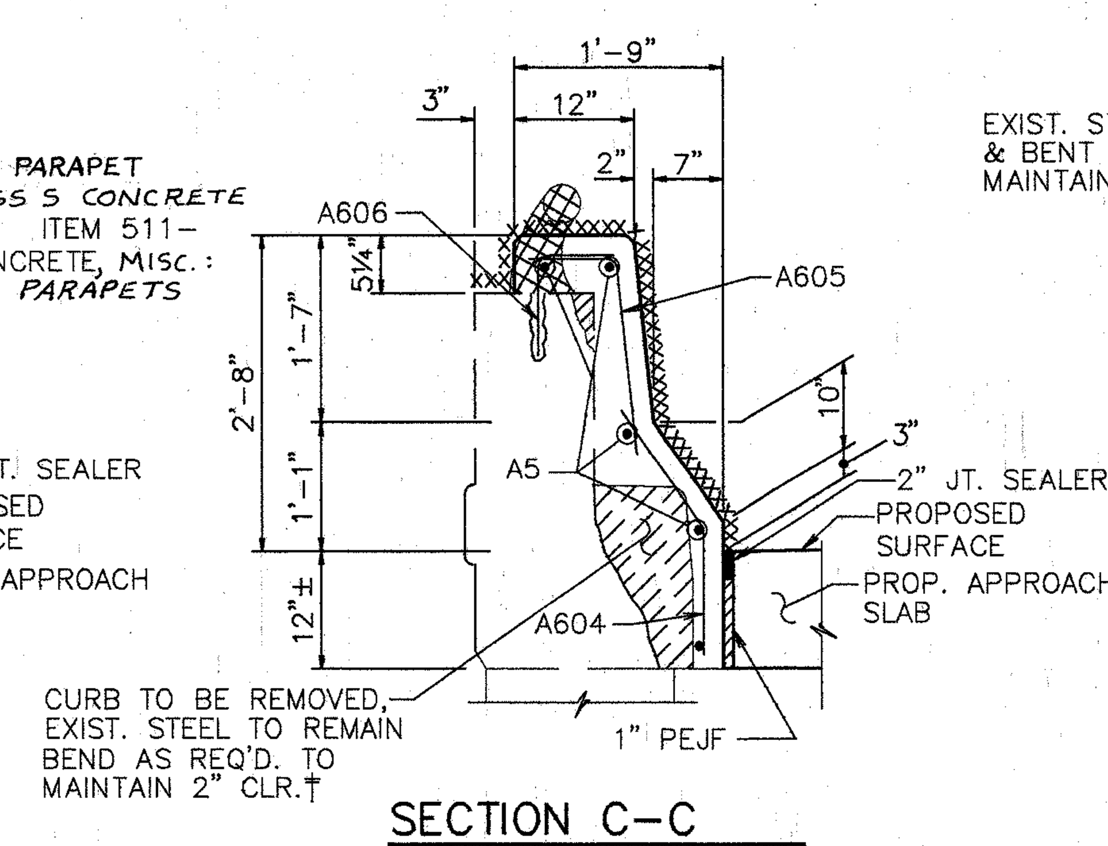


ELEVATION SUPERSTRUCTURE PARAPET

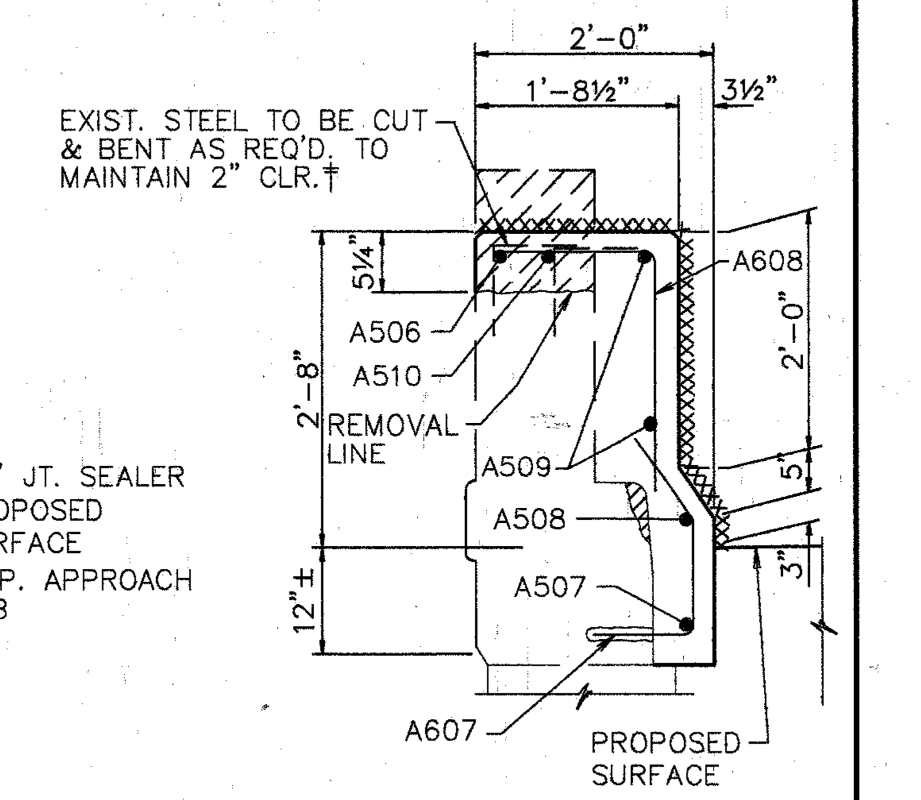
NOTE: 32" BARRIER ON LEFT
50" BARRIER ON RIGHT



SECTION B-B

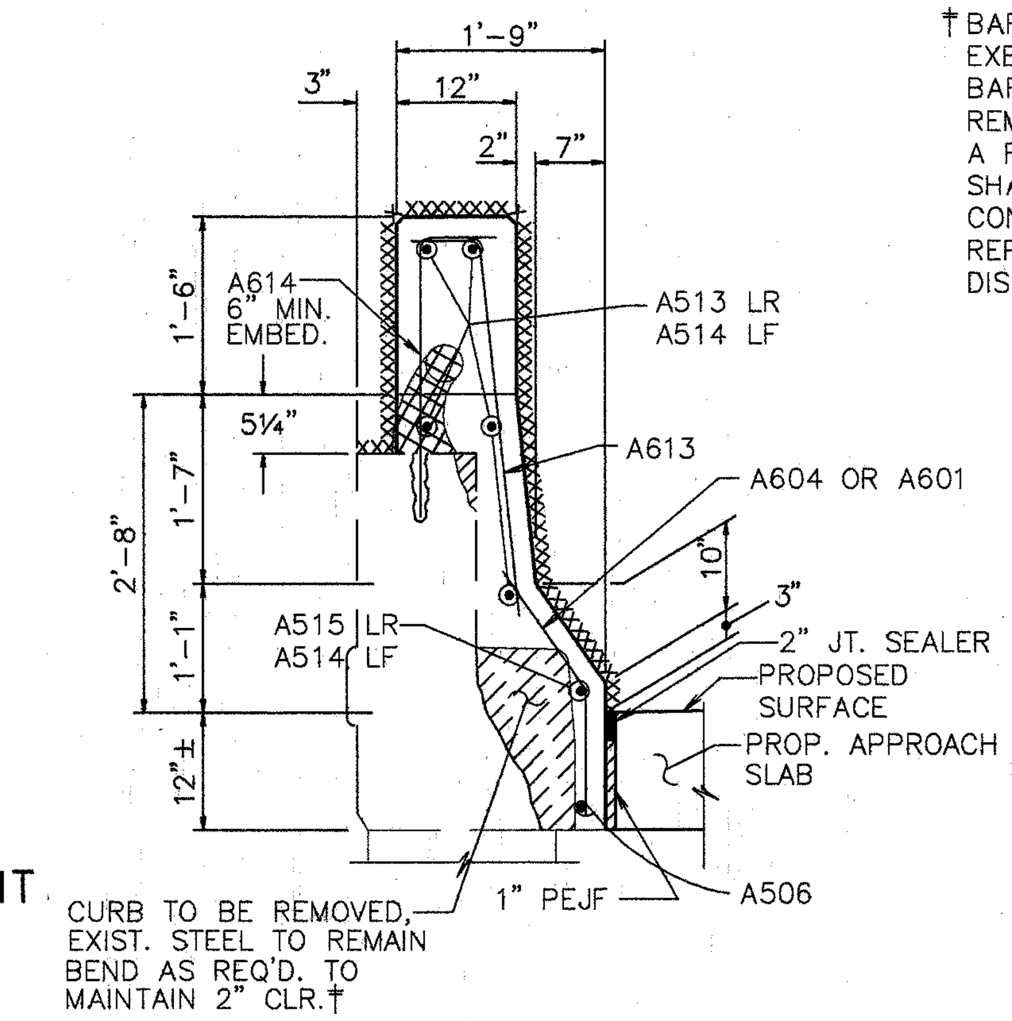


SECTION C-C

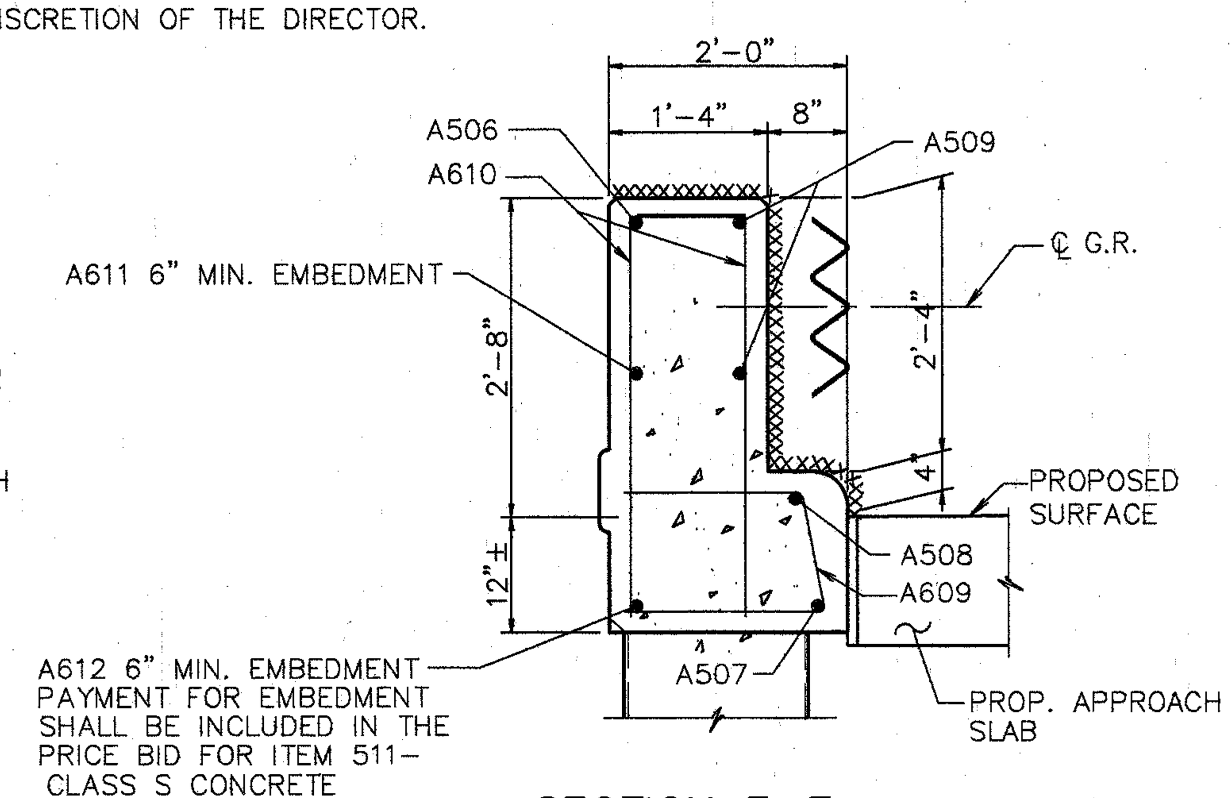


SECTION D-D

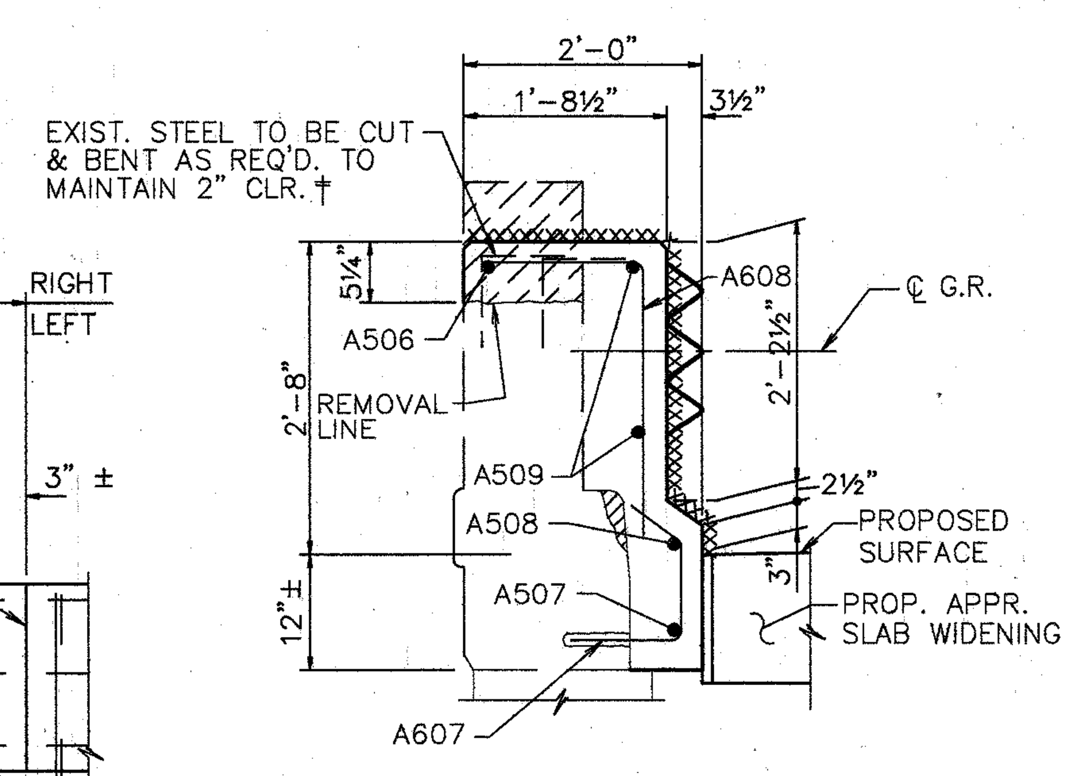
† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONC. REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.



SECTION N-N



SECTION F-F



SECTION E-E

FOR DETAILS NOT SHOWN SEE SHT. 3/4

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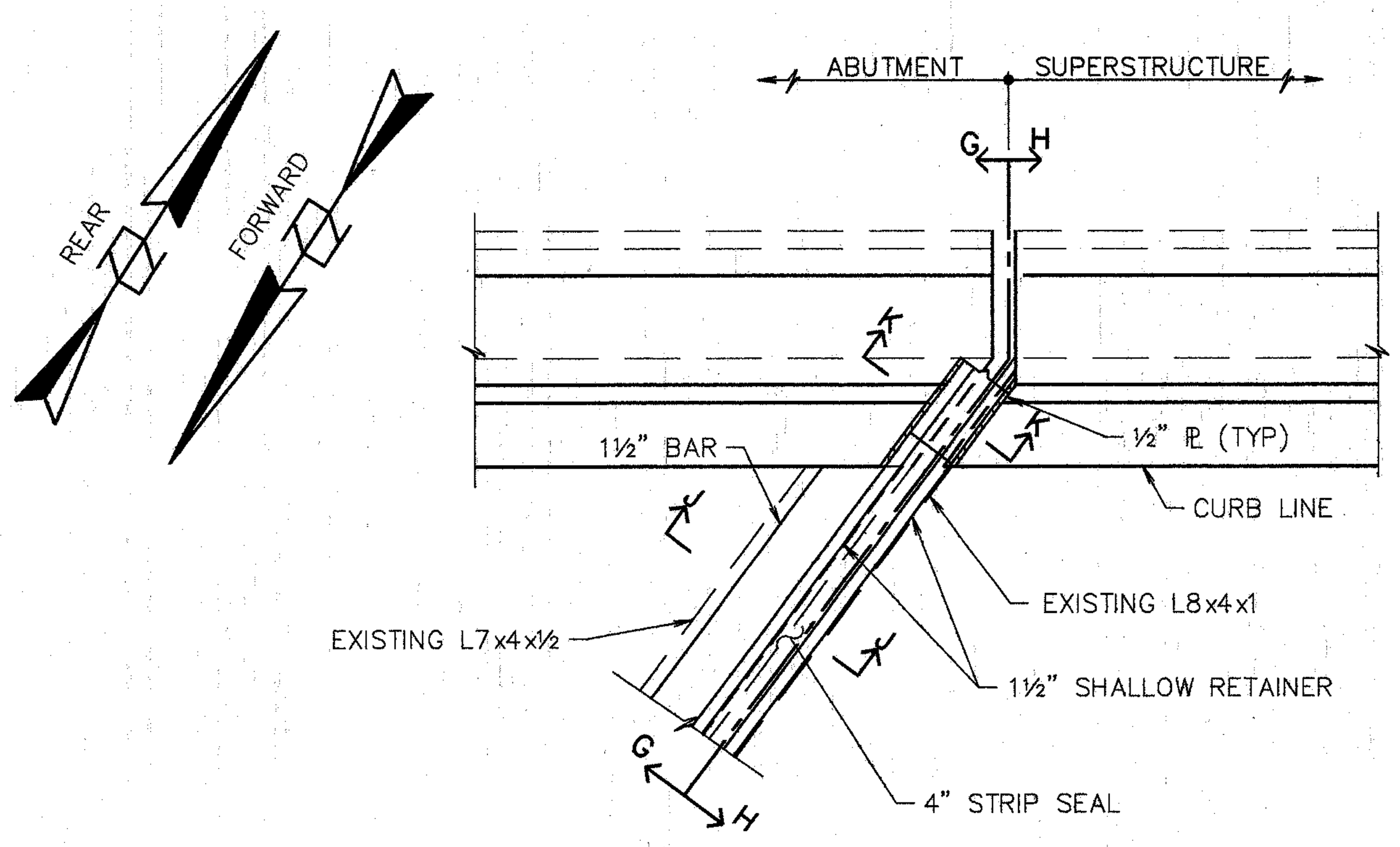
PARAPET SECTIONS AND DETAILS

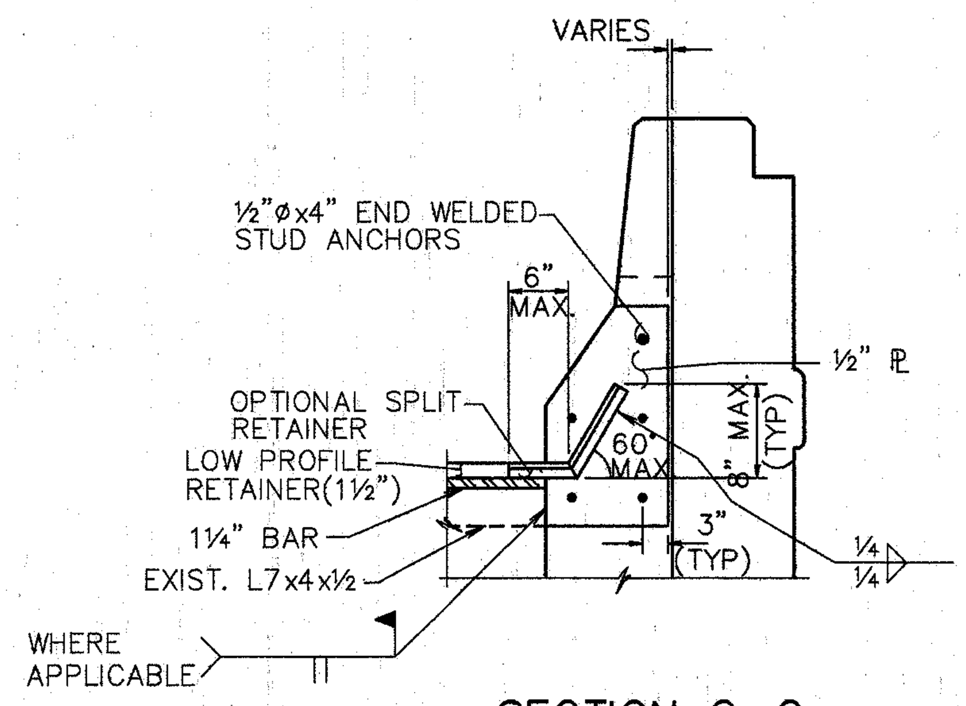
BRIDGE NO. HAM-71-0965 R
OVER RED BANK ROAD

HAMILTON COUNTY

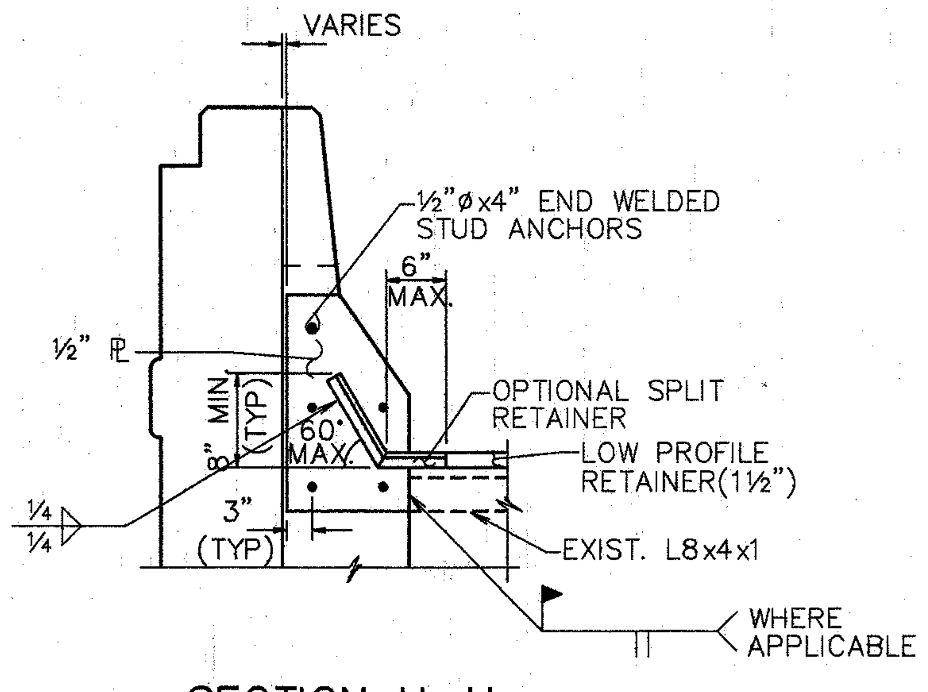
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 1/11/94	



PART PLAN @ ABUTMENTS



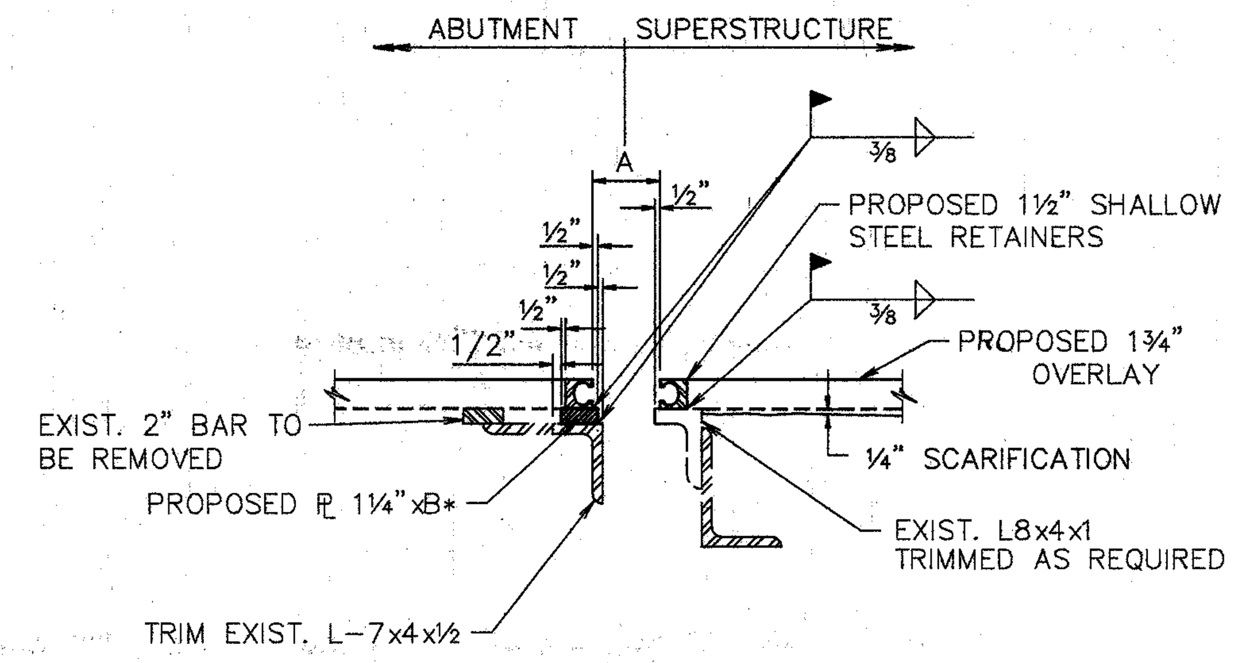
SECTION G–G



SECTION H–H

NOTES:

1. EXPANSION JT. DETAILS TO BE WORKED WITH STD. DWG. EXJ–4–87 SHTS. 1 thru 5.
2. WHEN PLATE IS RECESSED INTO ABUTMENT, CONCRETE BELOW PLATE SHALL BE SLOPED FROM BOTTOM OF THE PLATE TO THE END OF THE ABUTMENT TO DETER ACCUMULATION OF DEBIS.



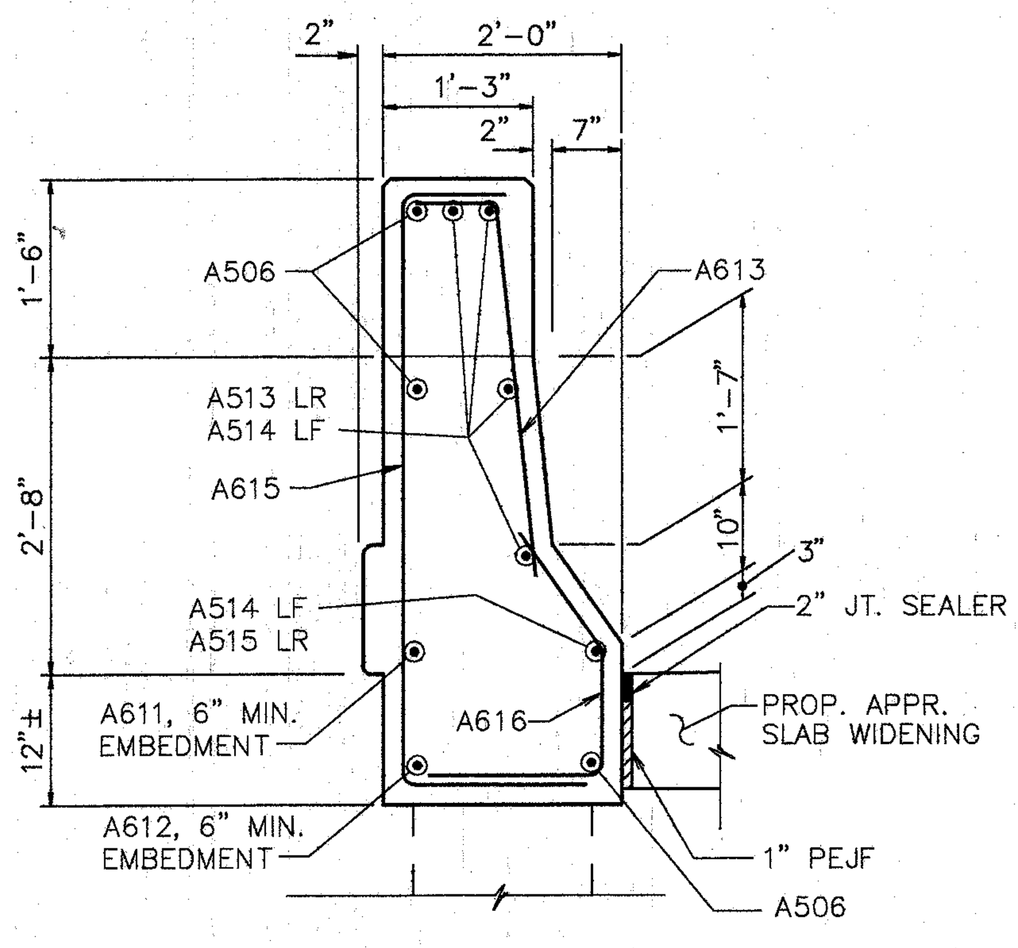
B* = RETAINER WIDTH PLUS 1"

SECTION J–J

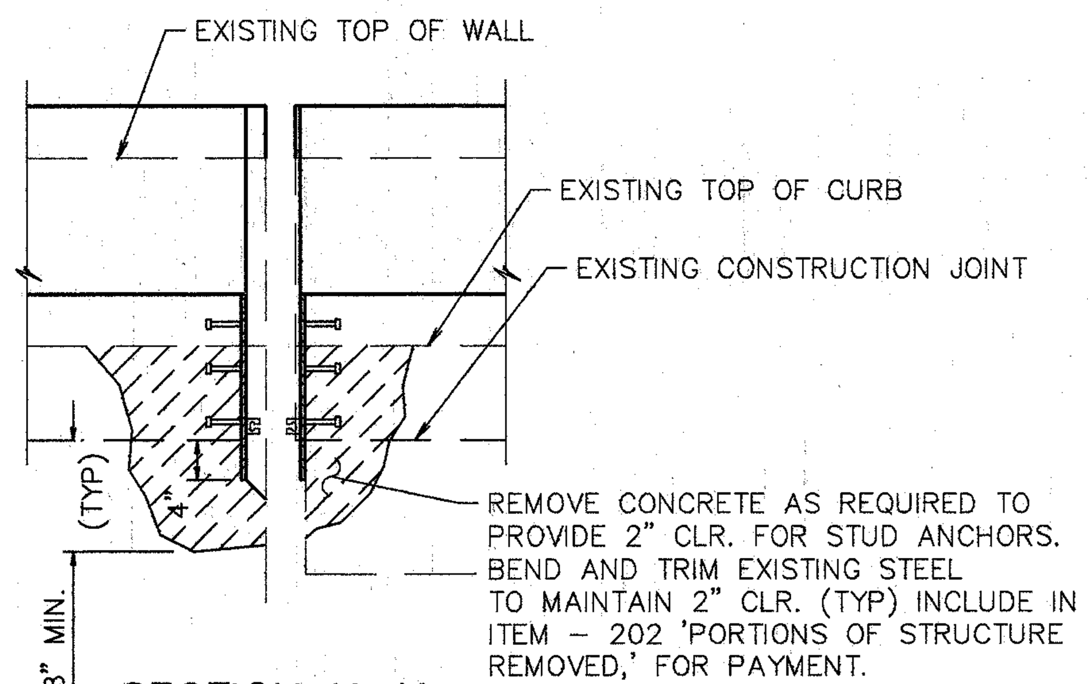
NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO MODIFYING EXPANSION JOINT.
2. THE PRICE BID FOR ITEM 516–'STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS, SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY OTHER INCIDENTIAL ITEMS, AS DETAILED. (REMOVAL OF CURB OR PARAPET AS SHOWN SHALL BE INCLUDED UNDER ITEM 202– 'PORTIONS OF STRUCTURE REMOVED').
3. FOR DETAILS NOT SHOWN REFER TO DWG. EXJ–4–87 SHTS. 3 AND 4.
4. STRIP SEAL TO BE INSTALLED IN ONE CONTINUOUS PIECE (NO OPEN JOINTS).
5. PROVIDE TEMPORARY SUPPORT FOR ABUTMENT END DAM DURING CONSTRUCTION. REMOVE TEMPORARY SUPPORT AS SOON AS CONCRETE HAS SET, PREFERABLY WITHIN TWO HOURS AFTER PLACING TO AVOID DAMAGE DUE TO EXPANSION AND CONTRACTION OF SUPERSTRUCTURE.

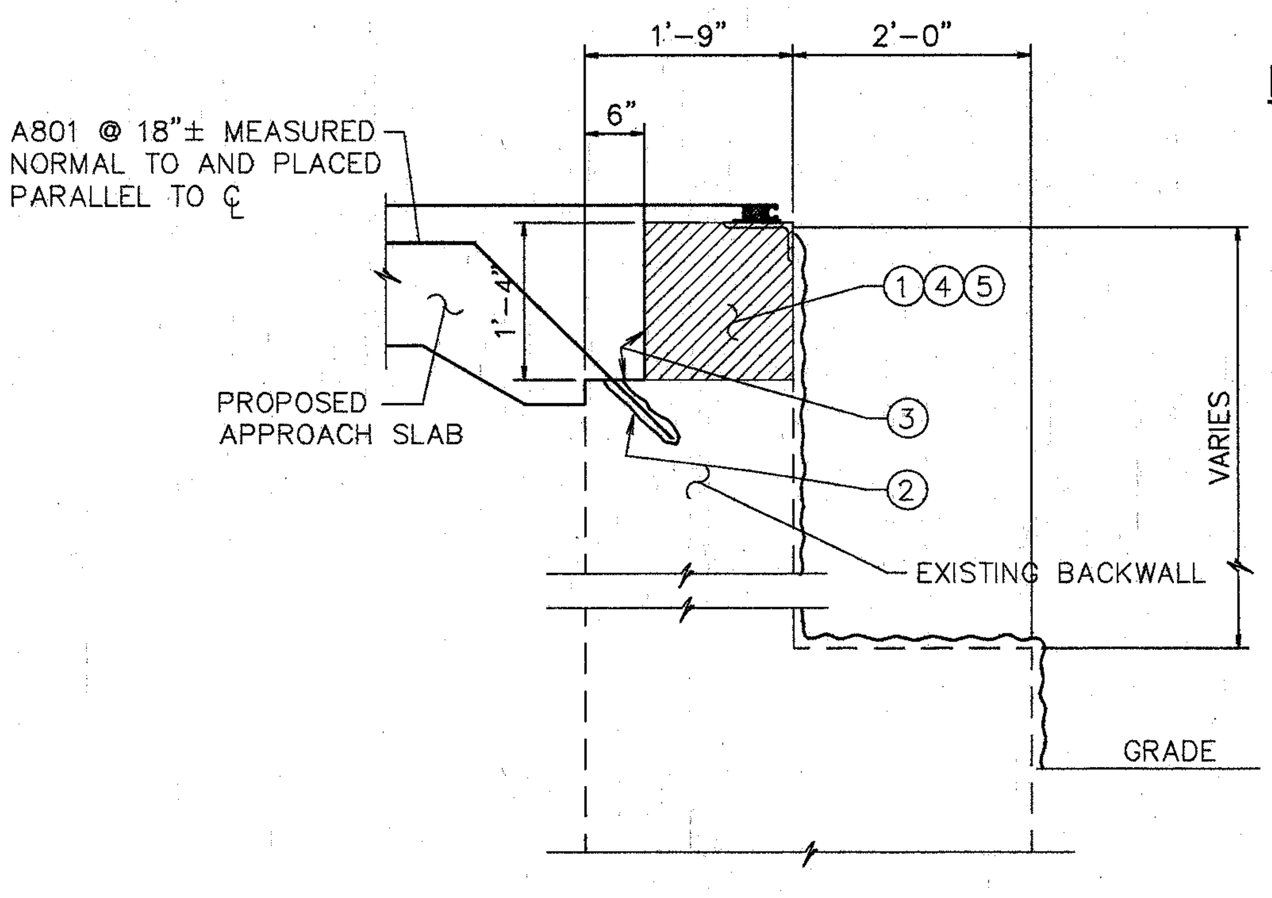
TEMPERATURE	DIM. 'A' REAR	DIM. 'A' FORWARD
40° F	3½"	3⅛"
50° F	3⅜"	3⅛"
60° F	3¼"	3⅛"
70° F	3¼"	3"
80° F	3⅛"	3"
90° F	3"	3"



SECTION M–M



SECTION K–K



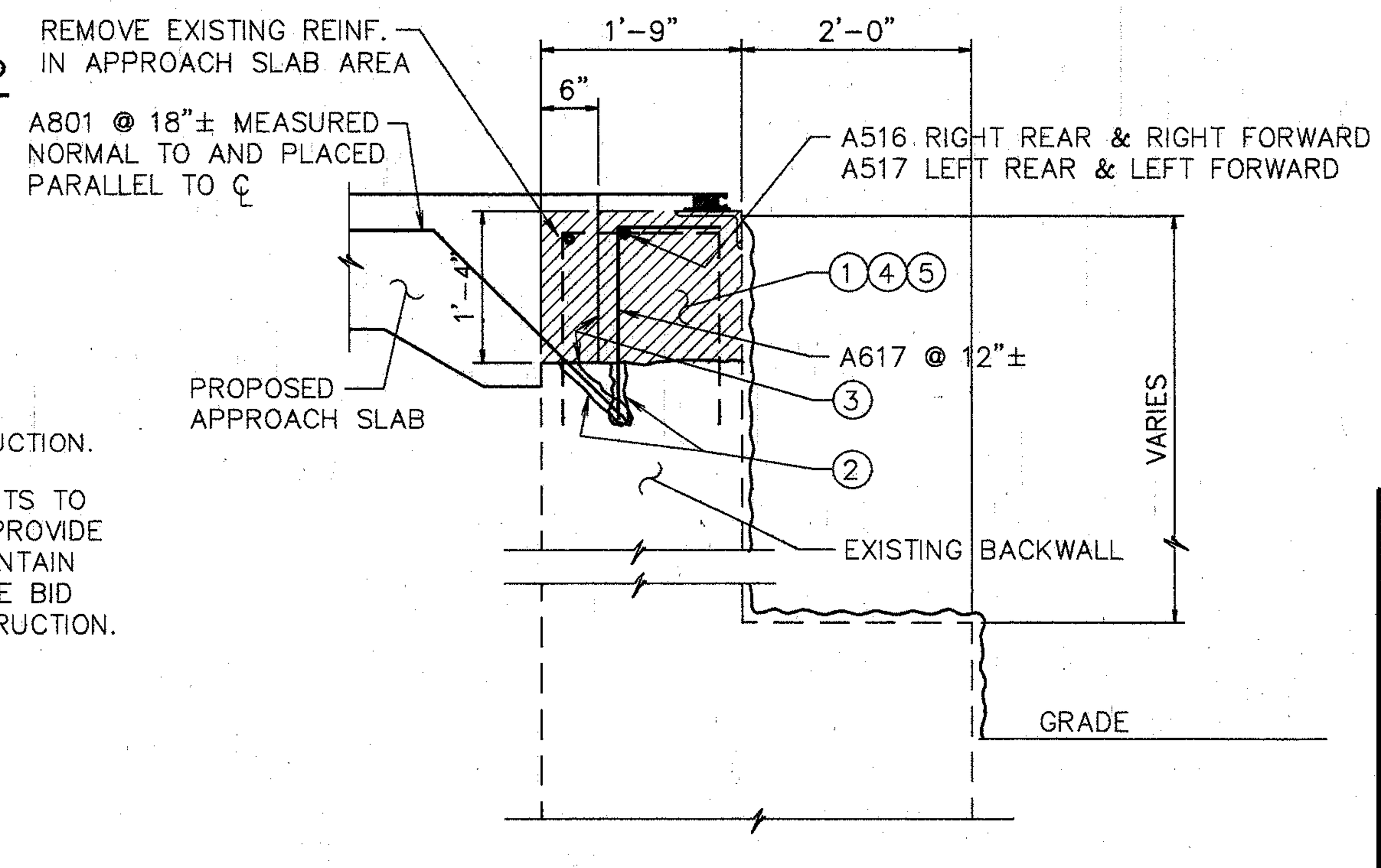
SECTION P–P

NOTES FOR SECTION L–L & P–P

1. EXISTING REINFORCING STEEL TO REMAIN ~ REINFORCING STEEL DAMAGED TO BE REPLACED AT CONTRACTORS EXPENSE.
2. 1' MIN. EMBEDMENT (SEE DOWEL HOLE GENERAL NOTE) ITEM 510.
3. TYPE 'A' WATERPROOFING (PAYMENT INCLUDED IN THE PRICE BID FOR APPROACH SLAB).
4. CLASS 'C' CONCRETE, ABUTMENT RECONSTRUCTION.
5. PROVIDE CONTRACTION AND EXPANSION JOINTS TO MATCH THOSE IN EXISTING BACKWALL AND PROVIDE CONSTRUCTION JOINTS AS REQUIRED TO MAINTAIN TRAFFIC. PAYMENT TO BE INCLUDED IN PRICE BID FOR ITEM 511 CLASS C CONCRETE RECONSTRUCTION.

EXISTING CONCRETE TO BE REMOVED INCLUDE IN ITEM 202 FOR PAYMENT.

SURFACE TO BE SEALED UNDER ITEM SPECIAL– 'SEALING OF CONCRETE SURFACE, EPOXY'.



SECTION L–L

SEE NOTES ON SHT. 2/4

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MISCELLANEOUS DETAILS

BRIDGE NO. HAM–71–0965 R
OVER RED BANK ROAD

HAMILTON COUNTY

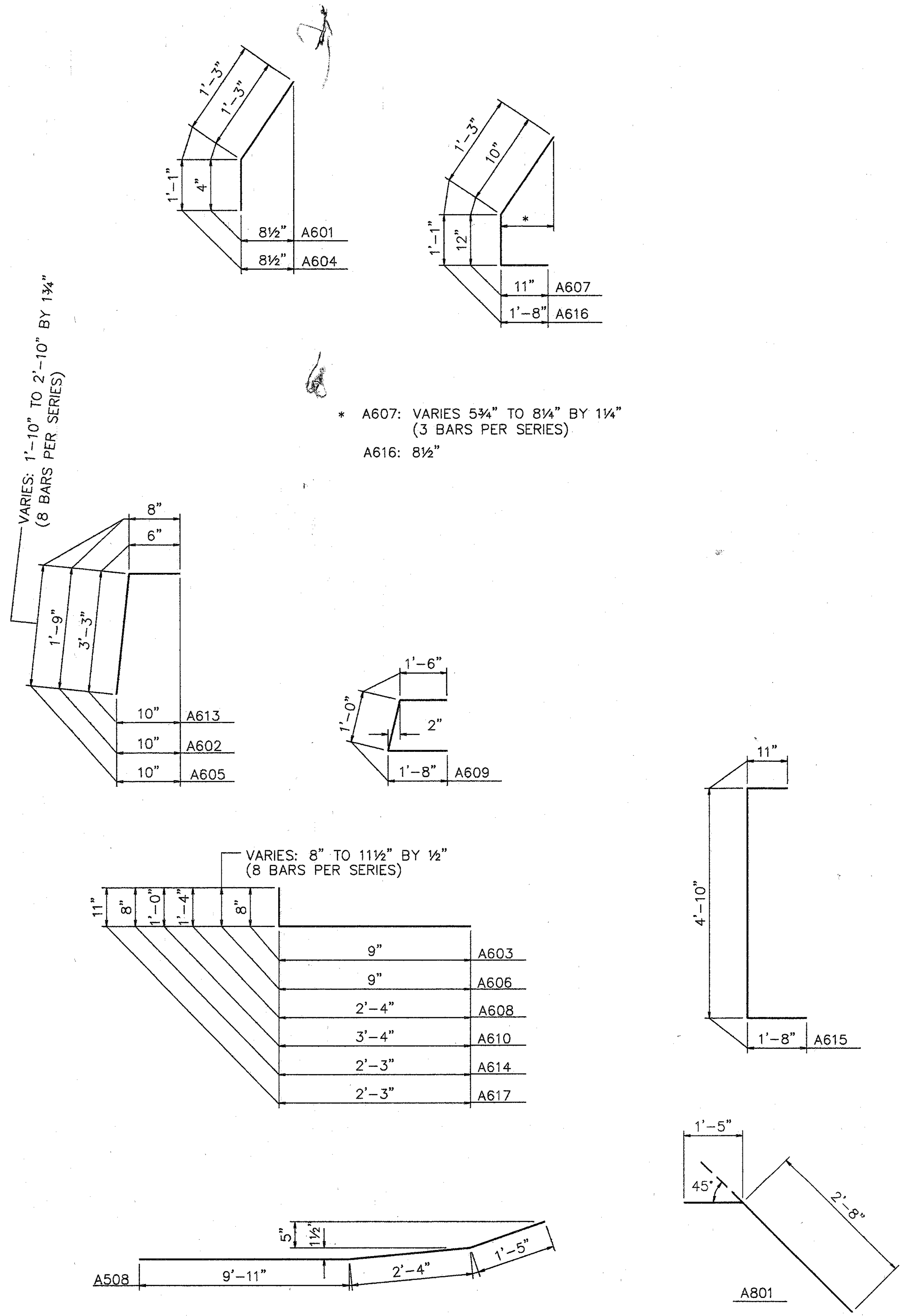
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 1/11/94	

CALC. BY LATM DATE 9.23.92
CHK'D BY DEM DATE 10.4.94

REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A501	STR.	20	30'-0"	626
A502	STR.	2	13'-9"	29
A503	STR.	2	19'-3"	40
A504	STR.	33	13'-6"	465
A505	STR.	55	14'-0"	803
A506	STR.	8	5'-0"	42
A507	STR.	2	13'-8"	29
A508	BNT.†	2	13'-8"	29
A509	BNT.	4	13'-8"	57
A510	STR.	2	11'-0"	23
A511	STR.	4	20'-4"	85
A512	STR.	4	22'-0"	92
A513	STR.	4	19'-0"	79
A514	STR.	5	13'-8"	71
A515	STR.	1	18'-10"	20
A516	STR.	2	10'-6"	22
A517	STR.	2	13'-2"	27
A601	BNT.	346	1'-6"	780
A602	BNT.	173	2'-5"	628
A603	BNT.	175	1'-3"	329
A604	BNT.	12	2'-3"	41
A605	BNT.	16	2'-6" to 3'-6"	72
A606	BNT.	16	1'-3" to 1'-7"	34
A607	BNT.	6	2'-6"	23
A608	BNT.	6	3'-6"	32
A609	BNT.	2	3'-10"	12
A610	BNT.	4	4'-2"	25
A611	STR.	4	1'-2"	7
A612	STR.	4	10"	5
A613	BNT.	172	3'-7"	926
A614	BNT.	170	2'-9"	702
A615	BNT.	2	7'-1"	21
A616	BNT.	2	3'-9"	11
A617	BNT.	40	3'-0"	180
A801	BNT.	101	4'-0"	1079
REPLACEMENT STEEL				300
			TOTAL	7746

BENT BAR DETAILS



† BEND IN FIELD AS REQUIRED.

ITEM		TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	L.S.	PORTIONS OF STRUCTURE REMOVED
509	15820	7746	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
510	12201	141	L.F.	DOWEL HOLES AS PER PLAN
511	34450	13	C.Y.	CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
511	45700	11	C.Y.	CLASS C CONCRETE, ABUTMENT (RECONSTRUCTION)
SPECIAL	51267500	905	S.Y.	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	243	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
513	21000	18	EACH	TRIMMING OF BEAM END
514	27704	LUMP	L.S.	FIELD PAINTING EXISTING STEEL, EEU *
516	14600	35	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2"x4" SEALER, AS PER PLAN
516	11210	166	L.F.	STRUCTURAL EXP. JT., INCLUDING ELASTOMERIC STRIP SEAL
516	45304	18	EACH	REFURBISH BEARING DEVICE
517	76201	154	L.F.	RAILING FACED, AS PER PLAN (32" HIGH)
517	76201	160	L.F.	RAILING FACED, AS PER PLAN (50" HIGH)
518	12700	10	EACH	SCUPPER, VERTICAL EXTENSION
519	11100	3	S.F.	PATCHING CONCRETE STRUCTURE
625				FOR LIGHTING SUMMARY SEE LIGHTING PLANS.
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
845	40210	1326	S.Y.	LATEX MODIFIED CONCRETE MISC. OVERLAY (1¾" THICK) ON EXISTING DECK
845	11000	13	C.Y.	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)
845	30000	1	C.Y.	FULL DEPTH REPAIR

* SEE PROPOSAL NOTE

PROPOSED WORK

1. MODIFY PARAPETS ON THE SUPERSTRUCTURE & ABUTMENTS. SEAL PARAPETS AS SHOWN ON PLANS. (INSTALL PLATES FOR STRIP SEAL EXP. JT.).
2. SCARIFY EXISTING DECK ¼", AND REMOVE DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER.
3. REFURBISH ALL ABUTMENT BEARINGS.
4. PLACE 1¾" THICK LATEX MODIFIED CONCRETE ON DECK.
5. SEAL PARAPETS, PIERS, AND BACKWALL.
6. RECONSTRUCT ABUTMENT BACKWALL ABOVE APPROACH SLAB SEAT.
7. SEAL EXPANSION JOINT WITH STRIP SEAL.
8. REPLACE GUARDRAIL AS SHOWN ON ROADWAY PLANS.
9. TRIM BEAM ENDS.
10. EXTEND SCUPPERS TO 8" BELOW BRIDGE BEAMS.
11. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED IN EACH DIRECTION AND ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTAINANCE OF TRAFFIC PLANS. MAINTENANCE OF TRAFFIC PLAN REQUIRES CONSTRUCTION PHASING LIMITS AT LANE CENTERLINES. DUE TO THESE LIMITS, OVERLAY MAY REQUIRE SPECIAL ATTENTION.
12. OTHER WORK AS DESCRIBED IN THESE PLANS.

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409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660

4 / 4

QUANTITIES AND GENERAL NOTES

BRIDGE NO. HAM-71-0965 R
OVER RED BANK ROAD

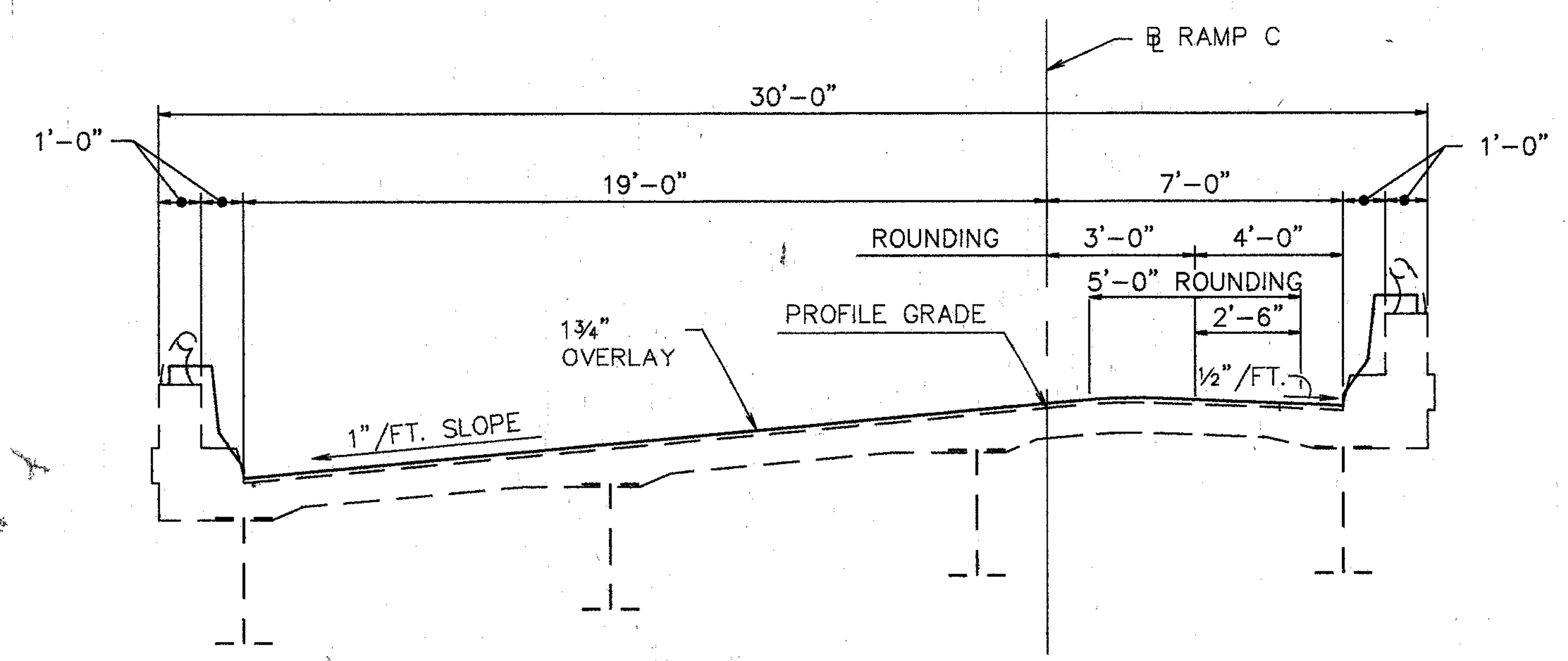
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M 11/11/94	

Last Plot MAY 15, 1991 @ 5:59 PM
G:\STR\16596-03\ASHLAND\965RSHT4 Last Revision By RACH MAY 17, 1994 @ 2:24 PM

ROCKER OR BOLSTER SIZE	JACK CAPACITY REQ'D. (MIN)
R100	75 TON
R125	100 TON

PLAN



TYP. BRIDGE SECTION

NOTES:

1. EXTEND SCUPPERS– SEE DETAIL F GENERAL DETAIL SHEET 273/401
2. SEAL PARAPETS, BACKWALLS AND PIERS 3, 4 & 5. SEAL PIERS COMPLETELY EXCEPT FOR TOPS OF PIER CAPS. PIER 4 SEALING QUANTITIES BELOW TOP OF CAP ARE INCLUDED IN BRIDGE 71-0987 FOR PAYMENT.
3. SEE JUNCTION BOX EXTENSION DETAIL GENERAL DETAIL SHEET 273/401 FOR BARRIER RETROFIT AT JUNCTION BOXES. REFER TO LIGHTING DETAILS FOR TYPE AND LOCATION.
4. PAINT EXIST. STEEL STRUCTURE WITH SYSTEM OZEU.

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL GIRDER WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: 47'-0", 67'-0", 84'-0", 104'-0", 100'-0" & 80'-0"
ROADWAY: 28'-0" F-F PARAPET
SKEW: 43°-23'-17" RT. FORWARD
LOADING FREQUENCY: C.F.=400 (57)
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: 4°-00'-00" CURVE TO THE LEFT
SUPERELEVATION: 0.0833'/FT.
CURB: 1'-0" EACH SIDE

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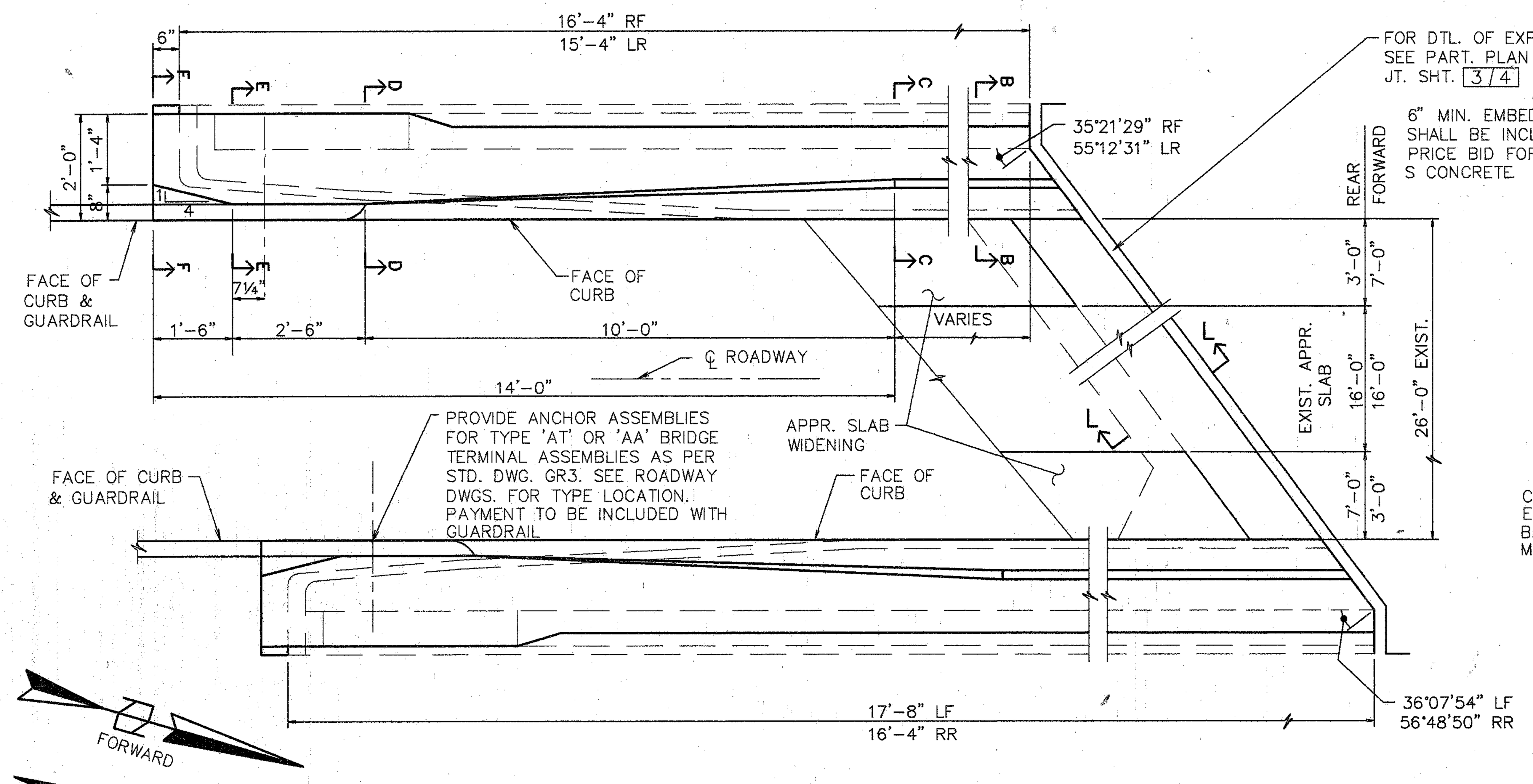
GENERAL PLAN

BRIDGE NO. HAM-71-0986
OVER INTERSTATE ROUTE 71

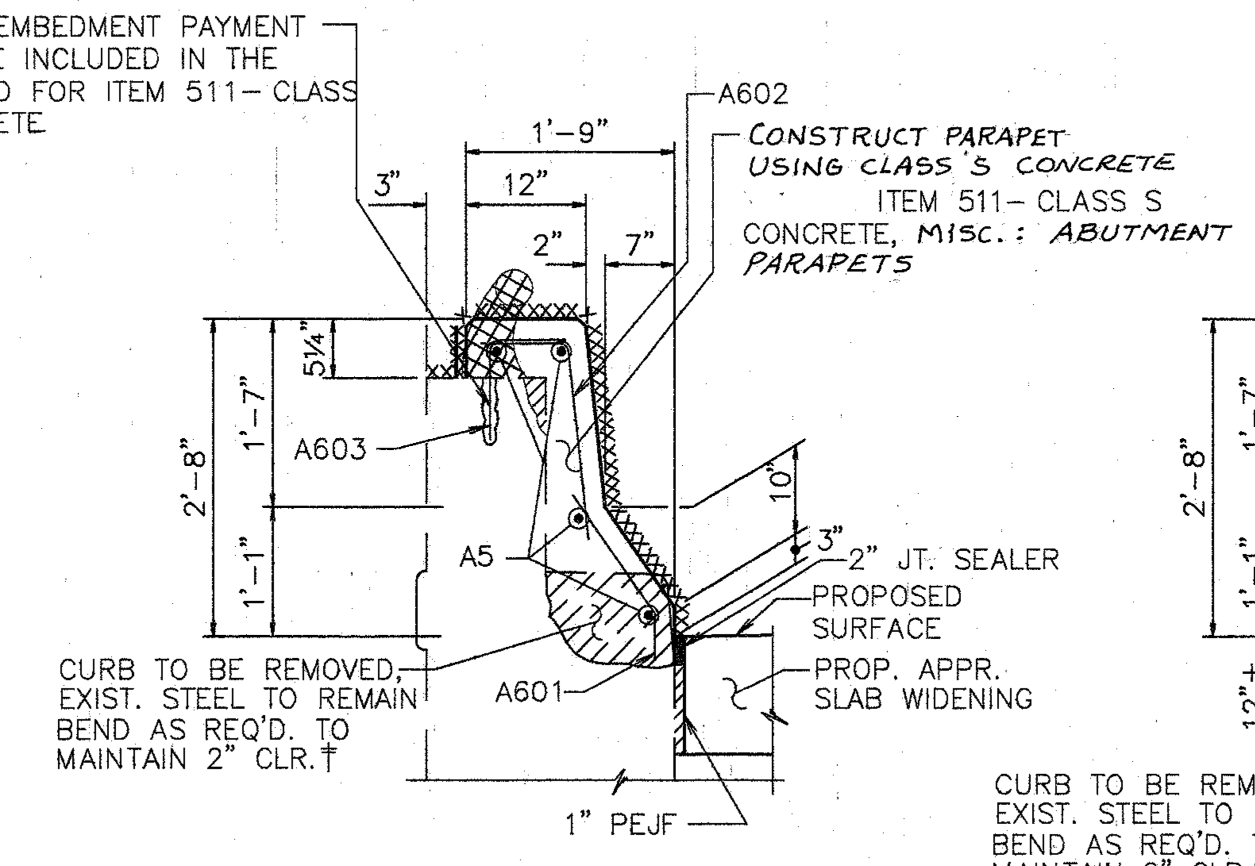
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.	L.A.P.		M.A.A.	D.E.M.	11/11/94	

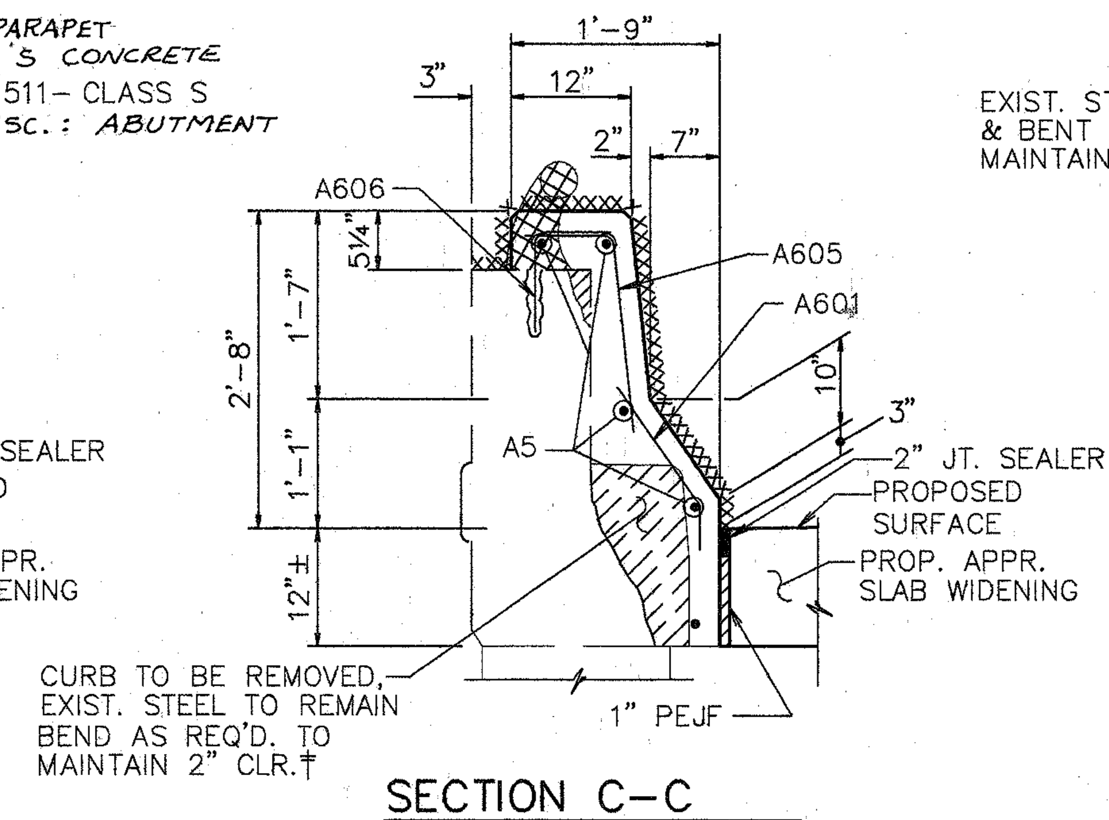


PLAN – ABUTMENT MODIFICATION

REAR ABUT. SHOWN, FWD. ABUT. OPPOSITE HAND SAME SKEW

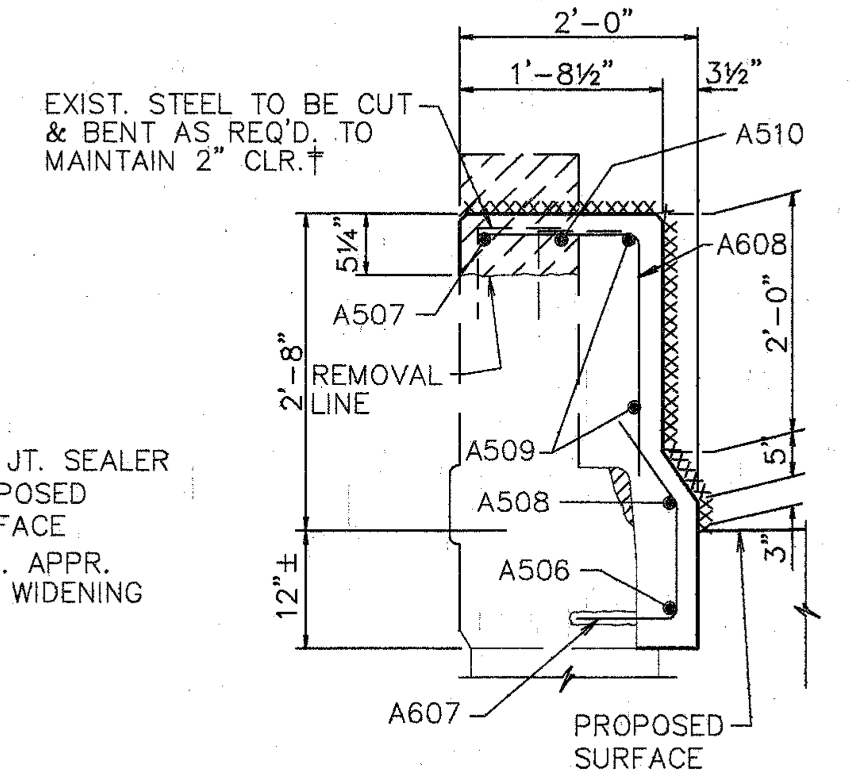


SECTION B–B

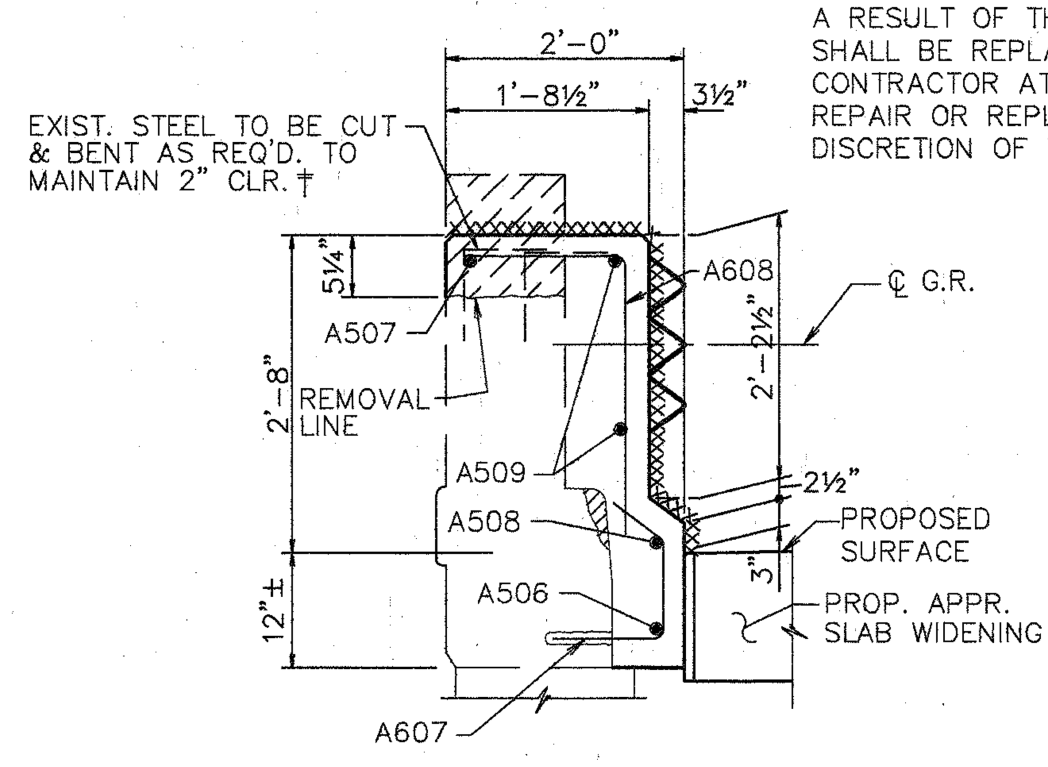


SECTION C–C

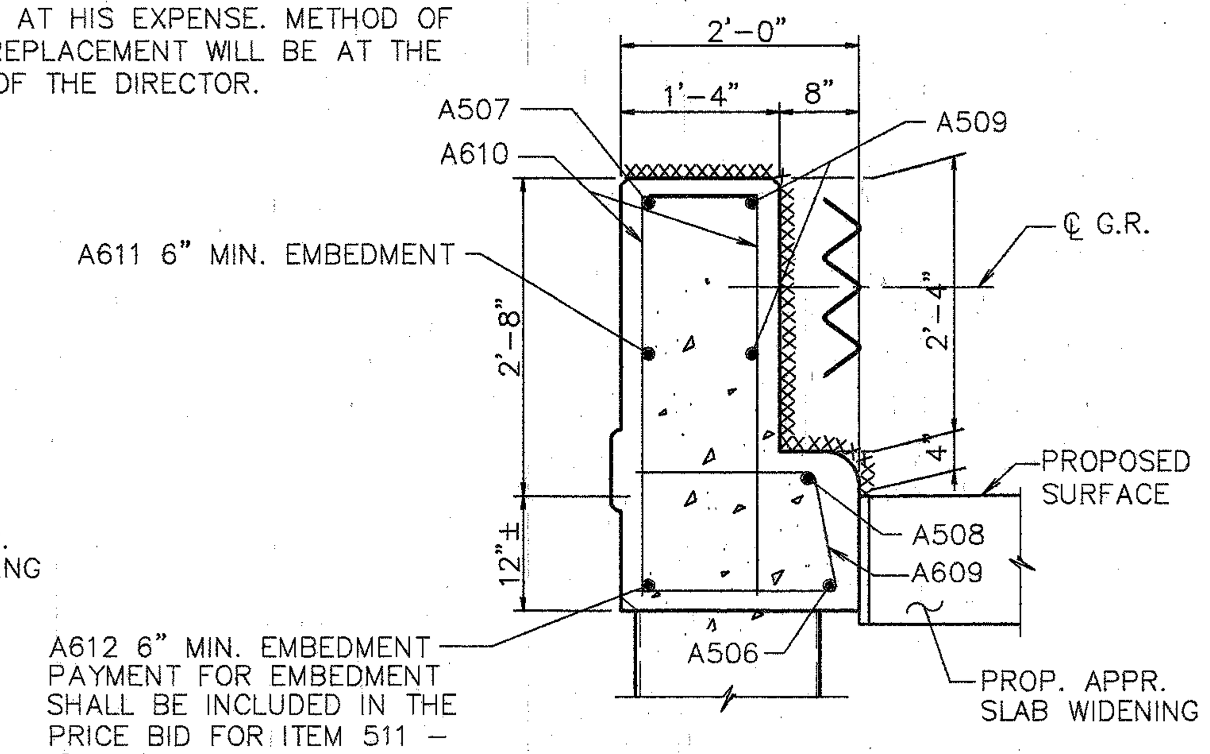
† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONC. REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.



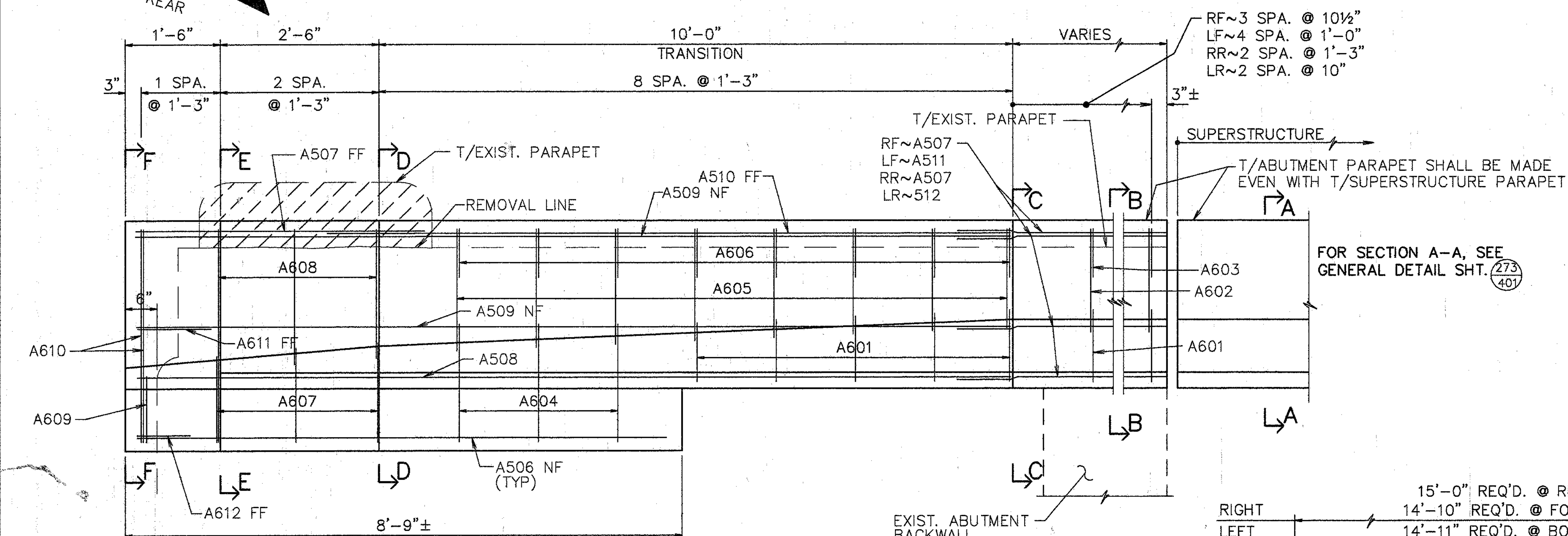
SECTION D–D



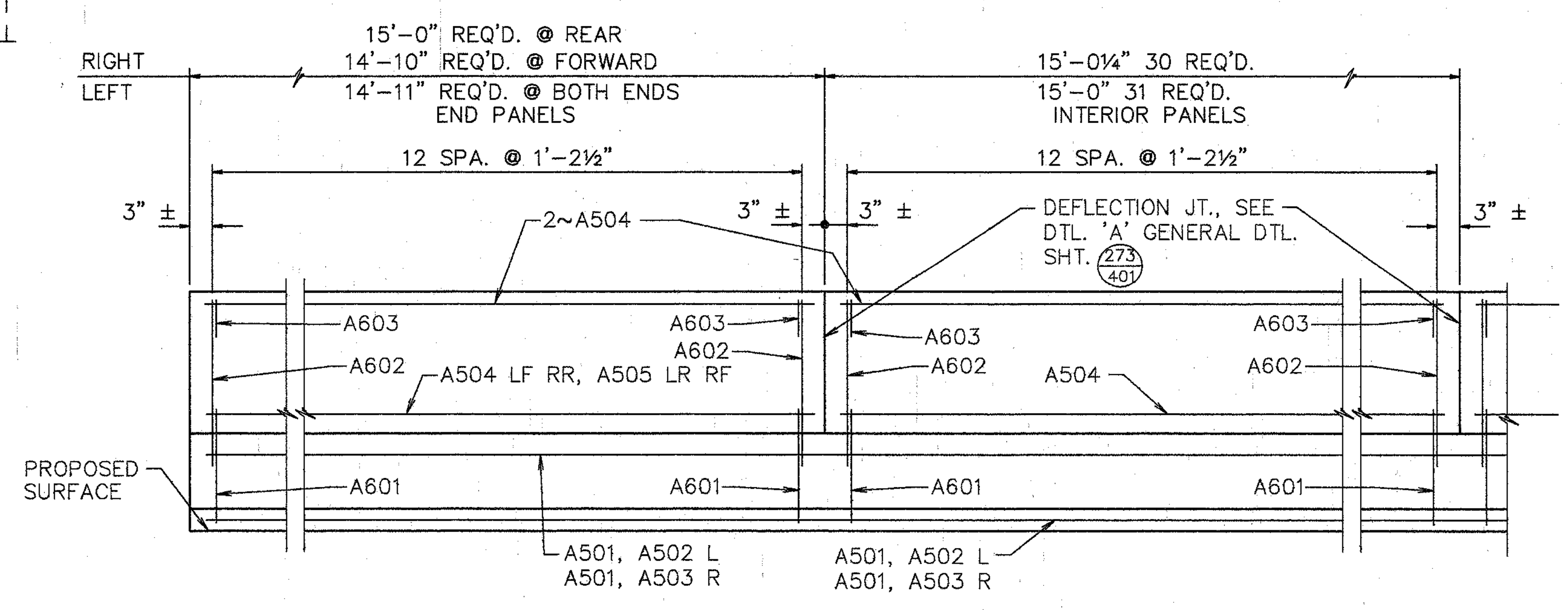
SECTION E–E



SECTION F–F



ELEVATION



ELEVATION SUPERSTRUCTURE PARAPET

▨ EXIST. CURB & PARAPET TO BE REMOVED UNDER ITEM 202–'PORTIONS OF STRUCTURE REMOVED'.

⊠ EXIST. RAILING & POSTS TO BE REMOVED & STACKED NEATLY ALONG THE RIGHT–OF–WAY FOR DISPOSAL BY THE CONTRACTOR. ALL WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202–'PORTIONS OF STRUCTURE REMOVED'.

XXXXXX SURFACES TO BE SEALED UNDER ITEM SPECIAL–'SEALING OF CONCRETE SURFACES.

NOTES:

1. PREFORMED EXPANSION JT. FILLER & SEALER AT CORNERS AND SIDES OF THE APP. SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YD. FOR THE APPR. SLAB.
2. TYPE 'A' WATERPROOFING AT THE BRIDGE LIMIT END OF THE WIDENED APPR. SLAB (AS PER STD. DWG. AS–1–81) SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611 – *APPROACH SLAB.*

NOTES:

L DENOTES LEFT SIDE
R DENOTES RIGHT SIDE
RF DENOTES RIGHT FORWARD
LF DENOTES LEFT FORWARD
RR DENOTES RIGHT REAR
LR DENOTES LEFT REAR
NF DENOTES NEAR FACE
FF DENOTES FAR FACE

NOTE:
FOR SECTIONS NOT SHOWN THIS SHEET SEE SHT. 3/4

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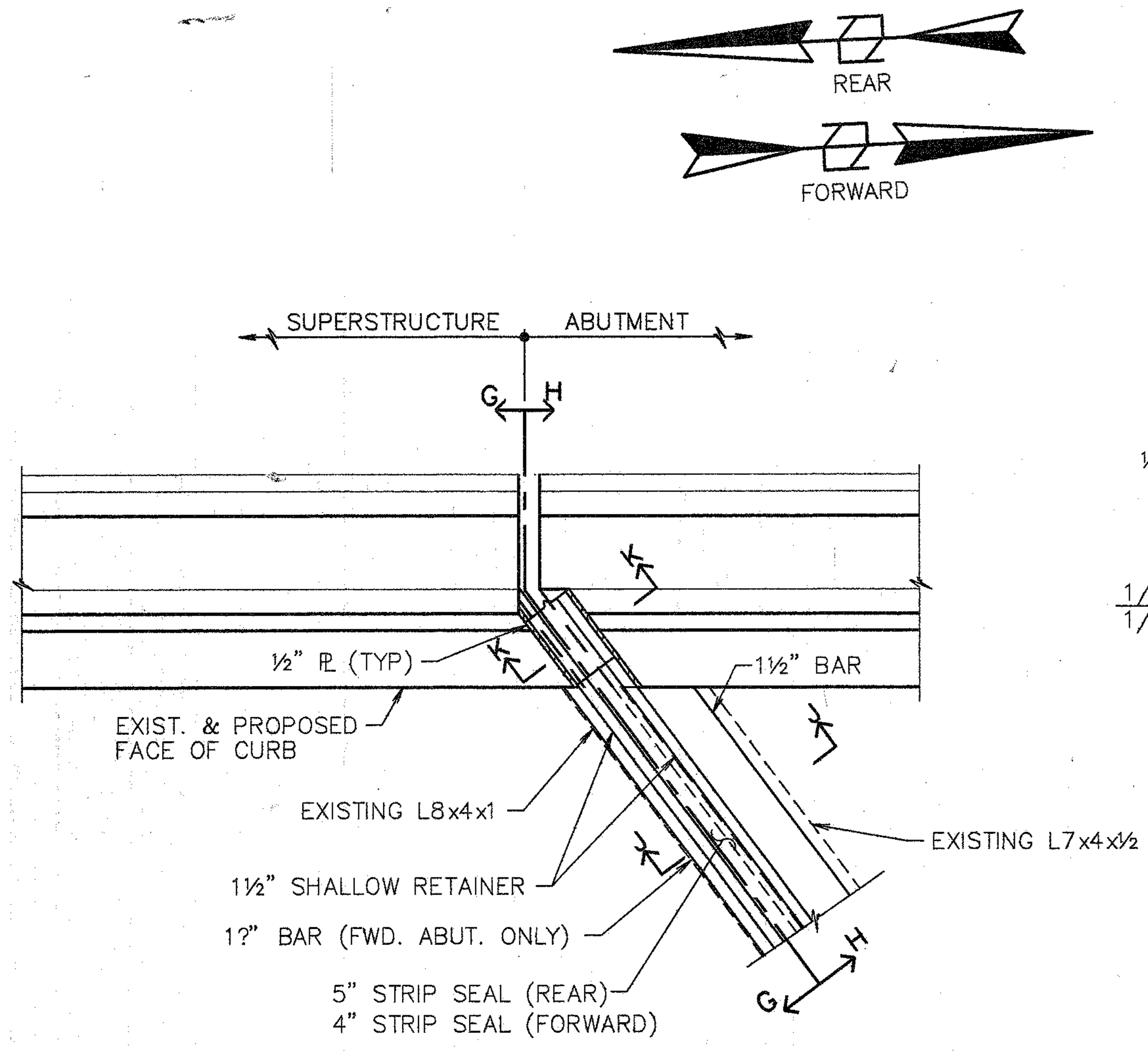
PARAPET SECTIONS AND DETAILS

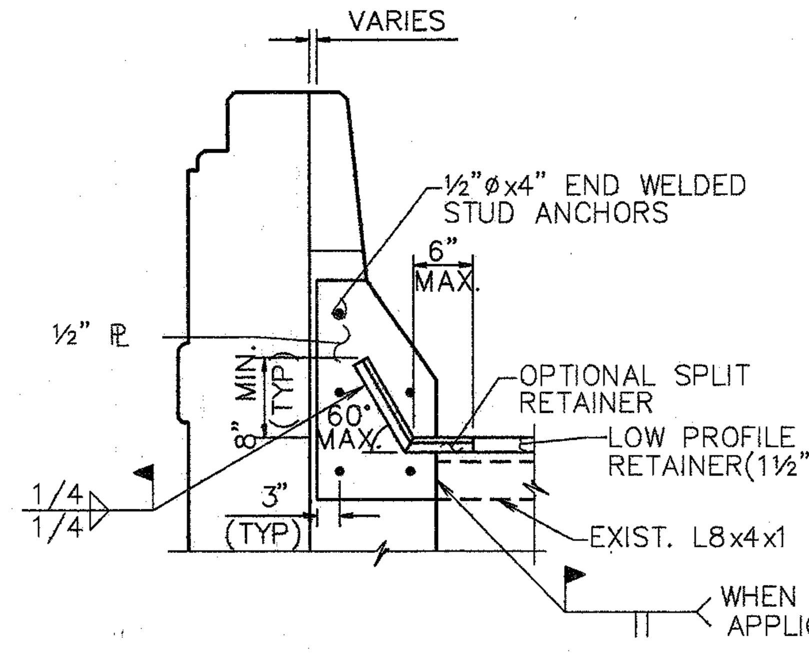
BRIDGE NO. HAM–71–0986
OVER I–71

HAMILTON COUNTY

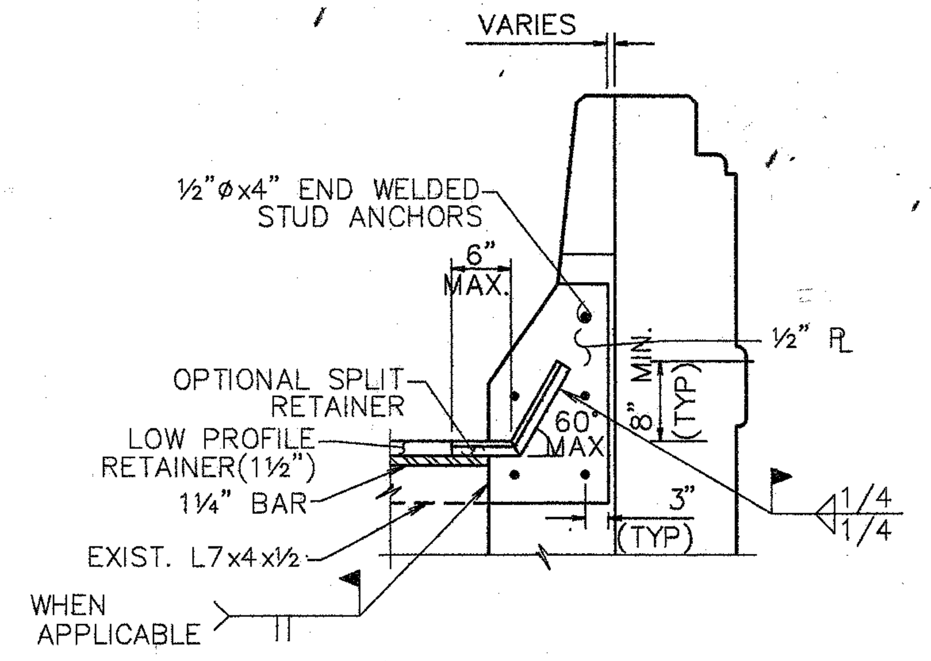
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.	R.M.J.		M.A.A.	D.E.M. 11/11/94	



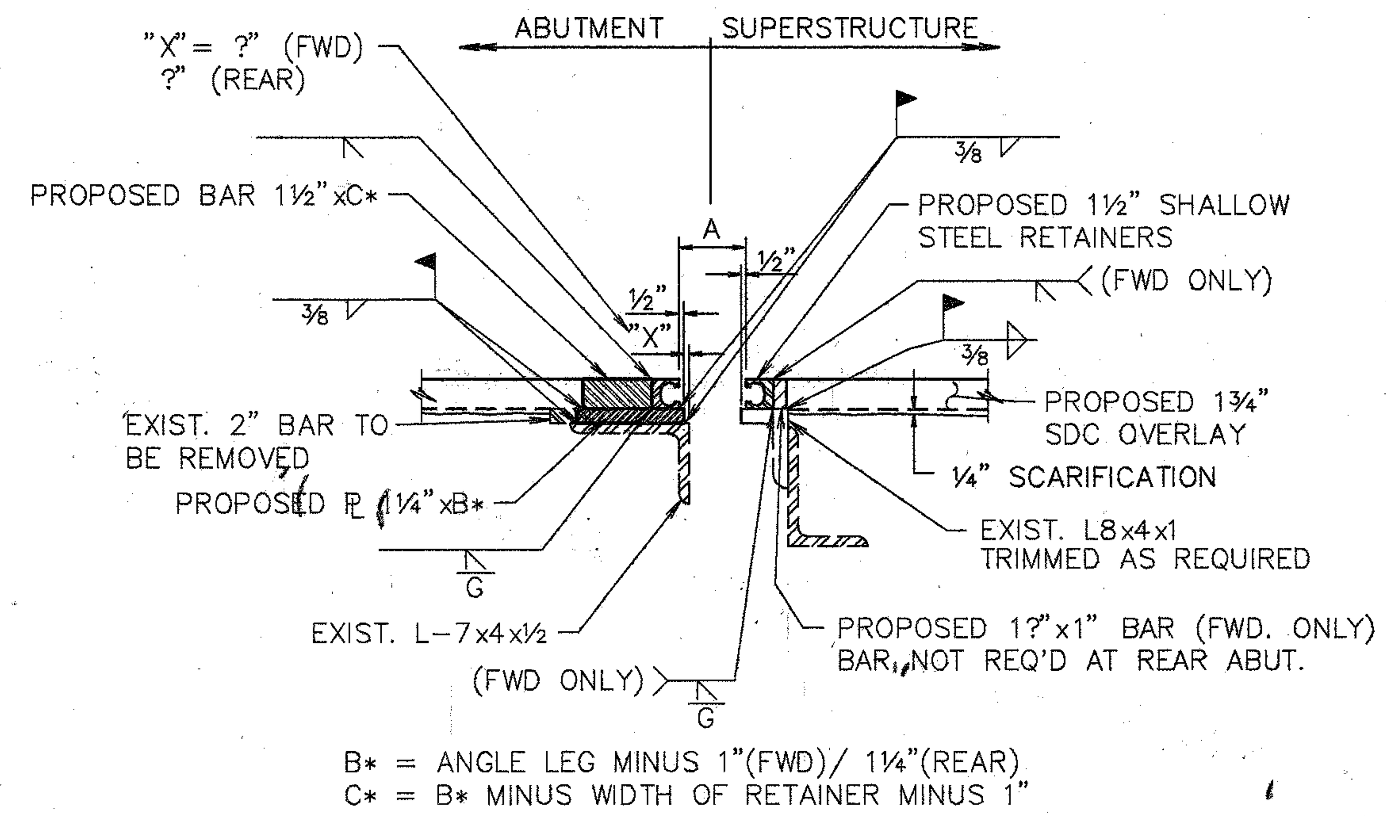
PART PLAN @ ABUTMENTS



SECTION G-G



SECTION H-H



SECTION J-J

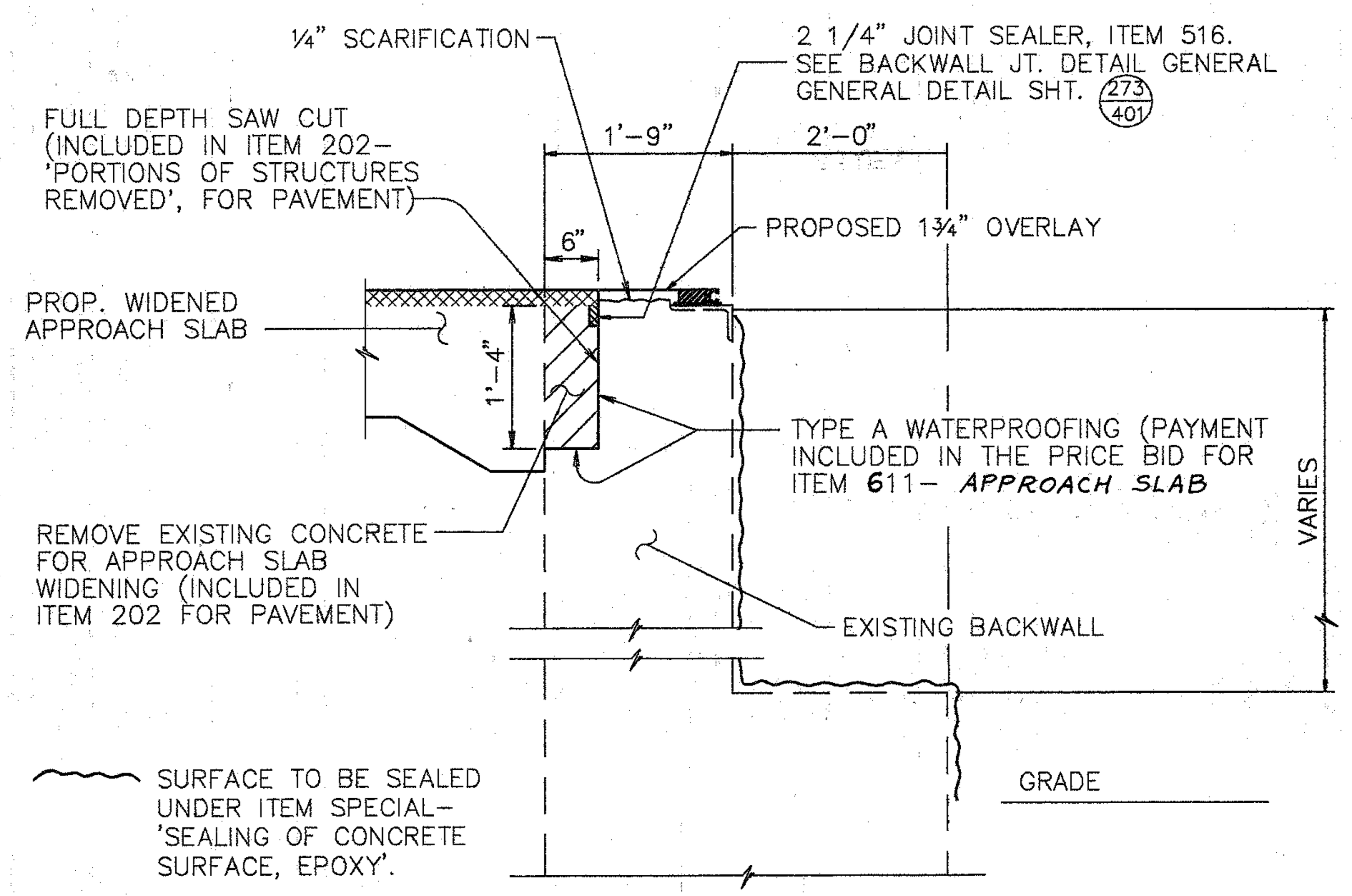
NOTE:

1. EXPANSION JT. DETAILS TO BE WORKED WITH STD. DWG. EXJ-4-87 SHTS. 1 thru 5.
2. WHEN PLATE IS RECESSED INTO ABUTMENT, CONCRETE BELOW PLATE SHALL BE SLOPED FROM BOTTOM OF THE PLATE TO THE END OF THE ABUTMENT TO DETER THE ACCUMULATION OF DEBIS.

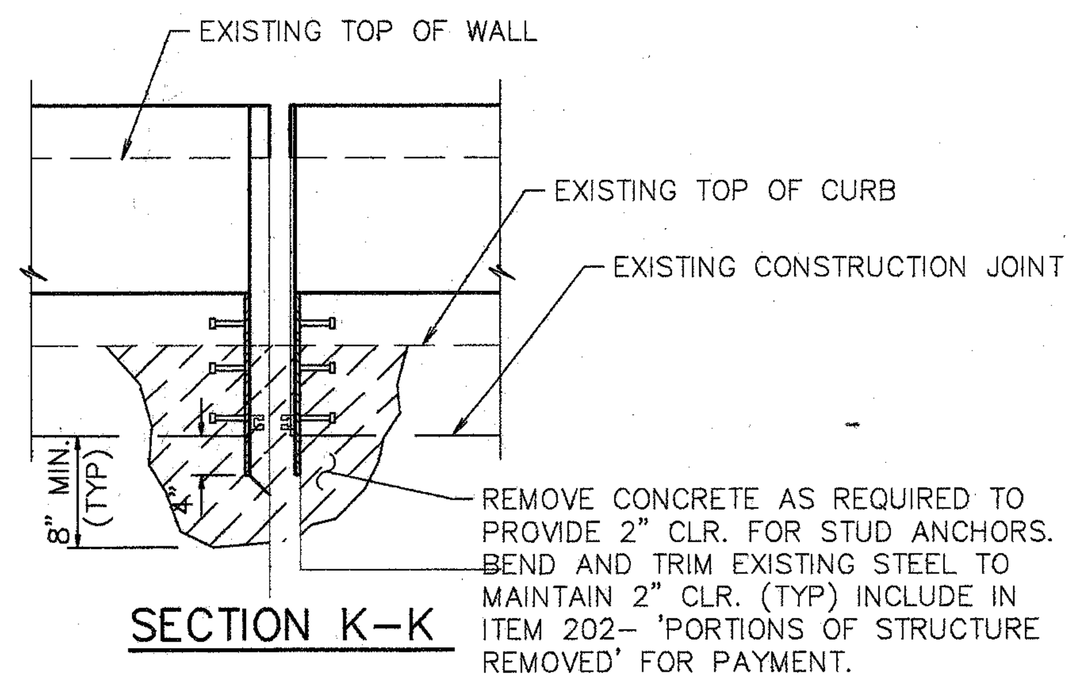
NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO MODIFYING EXPANSION JOINT.
2. THE PRICE BID FOR ITEM 516-'STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS, SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY OTHER INCIDENTIAL ITEMS, AS DETAILED. (REMOVAL OF CURB OR PARAPET AS SHOWN SHALL BE INCLUDED UNDER ITEM 202- 'PORTIONS OF STRUCTURE REMOVED').
3. FOR DETAILS NOT SHOWN REFER TO DWG. EXJ-4-87 SHTS. 3 AND 4.

TEMPERATURE	DIM. 'A'	
	REAR	FORWARD
40° F	3⅜"	3"
50° F	3¼"	2⅞"
60° F	3"	2¾"
70° F	2⅞"	2¾"
80° F	2⅝"	2⅝"
90° F	2½"	2½"



SECTION L-L



SECTION K-K

NOTE:
FOR NOTES SEE SHT. 2 / 4

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MISCELLANEOUS DETAILS

BRIDGE NO. HAM-71-0986
OVER INTERSTATE ROUTE 71

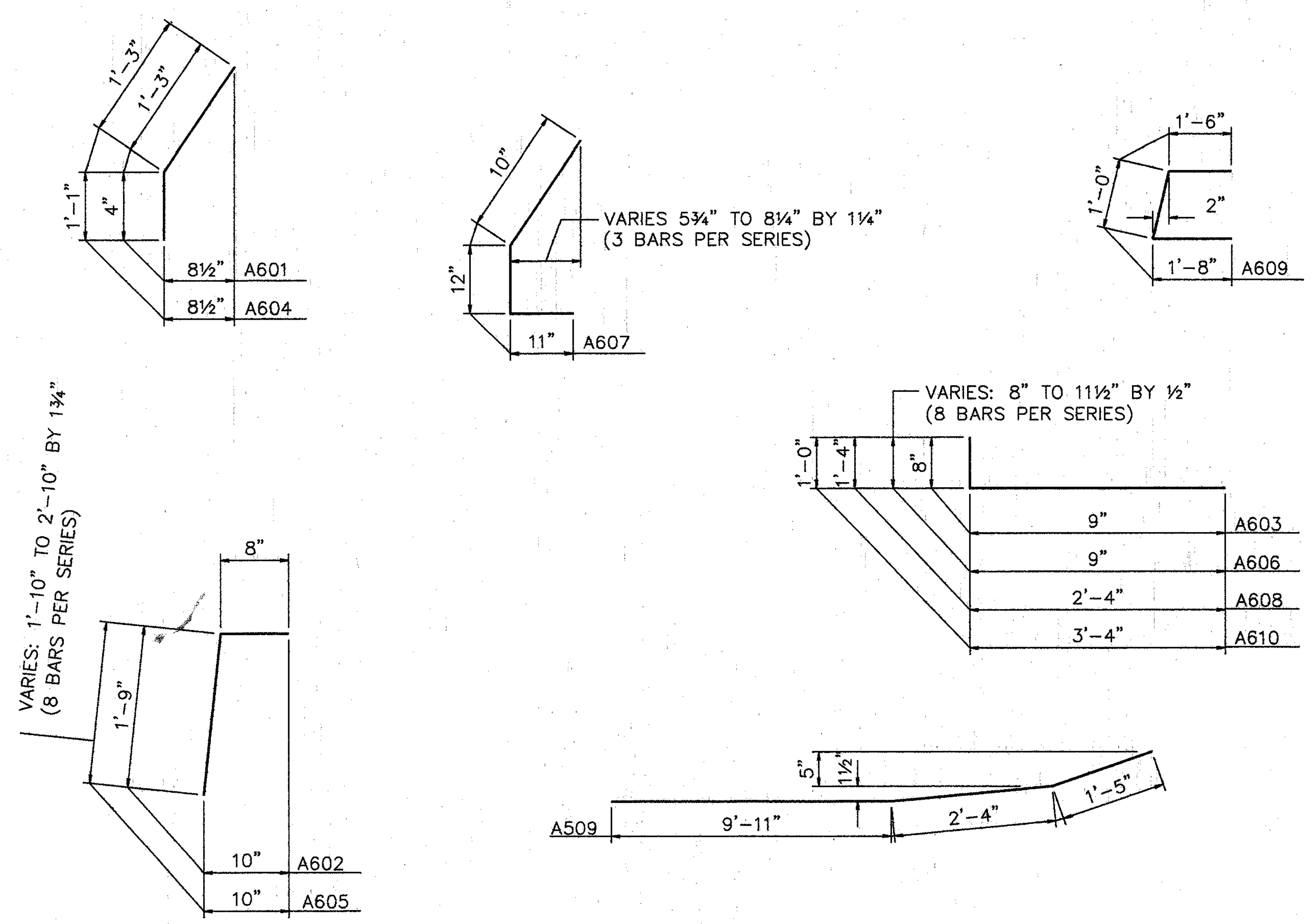
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.	L.A.P.		M.A.A.	D.E.M1/11/94	

REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
A501	STR.	68	30'-0"	2128
A502	STR.	2	17'-8"	37
A503	STR.	2	5'-1"	11
A504	STR.	193	14'-6"	2919
A505	STR.	2	14'-4"	30
A506	STR.	4	8'-3"	34
A507	STR.	12	5'-0"	63
A508	BNT. †	4	13'-8"	57
A509	BNT.	8	13'-8"	114
A510	STR.	4	11'-0"	46
A511	STR.	4	6'-0"	25
A512	STR.	4	4'-6"	19
A601	BNT.	876	1'-6"	1974
A602	BNT.	856	2'-5"	3111
A603	BNT.	856	1'-3"	1607
A604	BNT.	12	2'-3"	41
A605	BNT.	32	2'-6" to 3'-6"	144
A606	BNT.	32	1'-4" to 1'-8"	72
A607	BNT.	12	2'-6"	45
A608	BNT.	12	3'-6"	63
A609	BNT.	4	3'-10"	23
A610	BNT.	8	4'-2"	50
A611	STR.	4	1'-2"	7
A612	STR.	4	10"	5
REPLACEMENT STEEL				300
			TOTAL	12,925

BENT BAR DETAILS



† BEND IN FIELD AS REQUIRED.

PROPOSED WORK

1. MODIFY PARAPETS ON THE SUPERSTRUCTURE & ABUTMENTS. SEAL PARAPETS AS SHOWN ON PLANS. (INSTALL PLATES FOR STRIP SEAL EXP. JT.).
2. SCARIFY EXISTING DECK ¼", AND REMOVE DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER.
3. REFURBISH ALL ABUTMENT BEARINGS.
4. PLACE 1¾" THICK LATEX MODIFIED CONCRETE ON DECK AND APPROACH SLABS.
5. SEAL PARAPETS, PIERS, AND BACKWALL.
6. SEAL JOINTS, AS NOTED.
7. SEAL EXPANSION JOINT WITH STRIP SEAL.
8. REPLACE GUARDRAIL AS SHOWN ON ROADWAY PLANS.
9. TRIM BEAM ENDS TO 2" CLEARANCE (OR AS CLOSE TO 2" AS POSSIBLE).
10. EXTEND SCUPPERS.
11. PAINT EXISTING STEEL STRUCTURE.
12. ~~AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTAINANCE OF TRAFFIC PLANS.~~
13. OTHER WORK AS DESCRIBED IN THESE PLANS.

ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	L.S.	PORTIONS OF STRUCTURE REMOVED
509	15820	12925	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
511	34450	8	C.Y.	CLASS S CONCRETE, MISC.: ABUTMENT PARPETS
SPECIAL	51267500	140	S.Y.	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	92	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
513	21000	2	EACH	TRIMMING OF BEAM END
SPECIAL	51400050	24,900	S.F.	SURFACE PREPARATION OF EXIST. STEEL, SYSTEM OZEU *
SPECIAL	51400056	24,900	S.F.	FIELD PAINTING OF EXIST STEEL, PRIME COAT, SYSTEM OZEU *
SPECIAL	51400060	24,900	S.F.	FIELD PAINTING OF EXIST STEEL, INTERMEDIATE COAT, SYSTEM OZEU *
SPECIAL	51400066	24,900	S.F.	FIELD PAINTING OF EXIST STEEL, FINISH COAT, SYSTEM OZEU *
SPECIAL	51400504	100	MAN HOUR	GRINDING FINS, TEARS, AND SLIVERS *
SPECIAL	51400508	2672	L.F.	GRINDING FLANGE EDGES *
516	10000	79	L.F.	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL (705.11)
516	11210	83	L.F.	STRUCTURAL EXP. JT., INCLUDING ELASTOMERIC STRIP SEAL
516	45304	8	EACH	REFURBISH BEARING DEVICE
517	76201	976	L.F.	RAILING FACED, AS PER PLAN (32" HIGH)
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
518	12700	12	EACH	SCUPPER, VERTICAL EXTENSION
518	12800	6	EACH	SCUPPER MODIFICATION
SPECIAL	51912600	23	L.F.	CONCRETE REPAIR BY EPOXY INJECTION *
519	11100	5	S.F.	PATCHING CONCRETE STRUCTURE
625				FOR LIGHTING SUMMARY SEE LIGHTING PLANS.
845	40210	1420	S.Y.	LATEX MODIFIED CONCRETE MISC. OVERLAY (1¾" THICK) ON EXISTING DECK
845	11000	56	C.Y.	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)
845	30000	1	C.Y.	FULL DEPTH REPAIR

* SEE PROPOSAL NOTE

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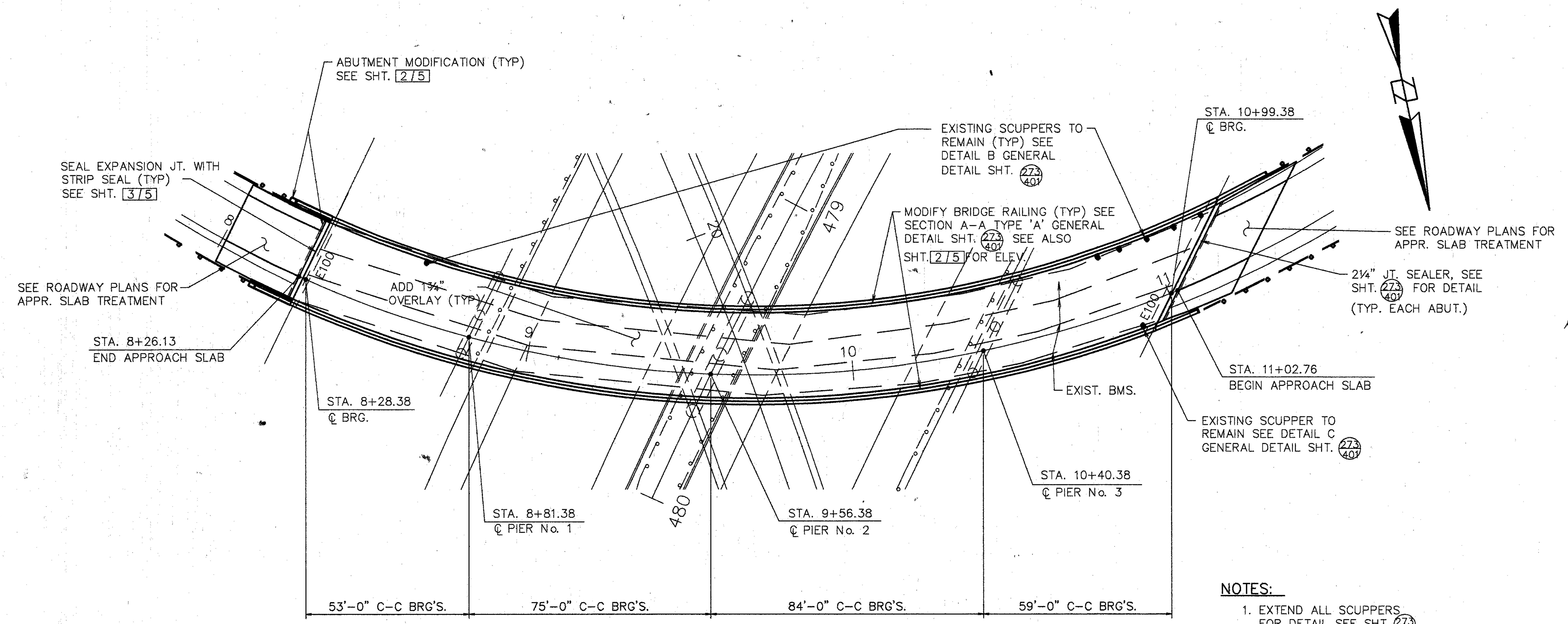
QUANTITIES AND GENERAL NOTES

BRIDGE NO. HAM-71-0986
OVER INTERSTATE ROUTE 71

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.	L.A.P.		M.A.A.	D.E.M. 11/11/94	

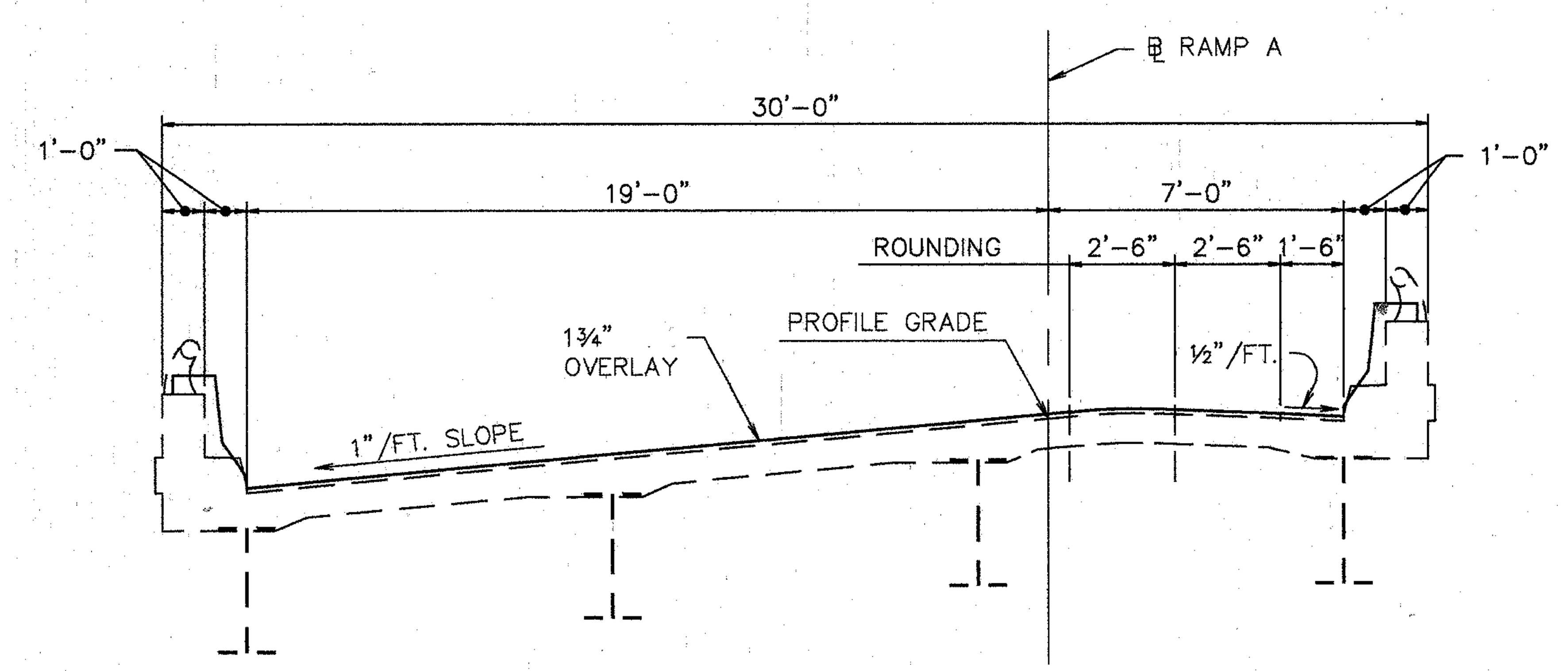


REFURBISH ALL ABUTMENT BEARINGS (TYP BOTH ABUTMENTS)

PLAN

NOTES:

1. EXTEND ALL SCUPPERS. FOR DETAIL SEE SHT. 273/401
2. SEAL PARAPETS, BACKWALL, & PIERS. SEAL ALL OF PIERS EXCEPT TOP OF PIER CAP. SEALING PIER 2 COLUMNS ABOVE TOP OF CONCRETE PIER CAP IS INCLUDED IN IN BRIDGE HAM-71-0987 FOR PAYMENT.
3. SEE JUNCTION BOX EXTENSION DTL., GENERAL DTL. SHT. 273/401 FOR BARRIER RETROFIT AT JUNCTION BOXES.
4. PAINT EXIST. STEEL STRUCTURE, INCLUDING BEARINGS, WITH SYSTEM OZEU.



TYP. BRIDGE SECTION

SLIDING ℞ SIZE	JACK CAPACITY REQ'D. (MIN)
E100	75 TON

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL BEAM WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: 53'-0", 75'-0", 84'-0", & 59'-0"
ROADWAY: 28'-0" F/F PARAPET
SKEW: 24°-15'-12" LT. FORWARD
LOADING FREQUENCY: C.F.=400 (57)
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: 17°-0' HORIZ. CURVE TO THE LEFT
SUPERELEVATION: 1"/FT.
CURB: 1'-0" EACH SIDE

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GENERAL PLAN

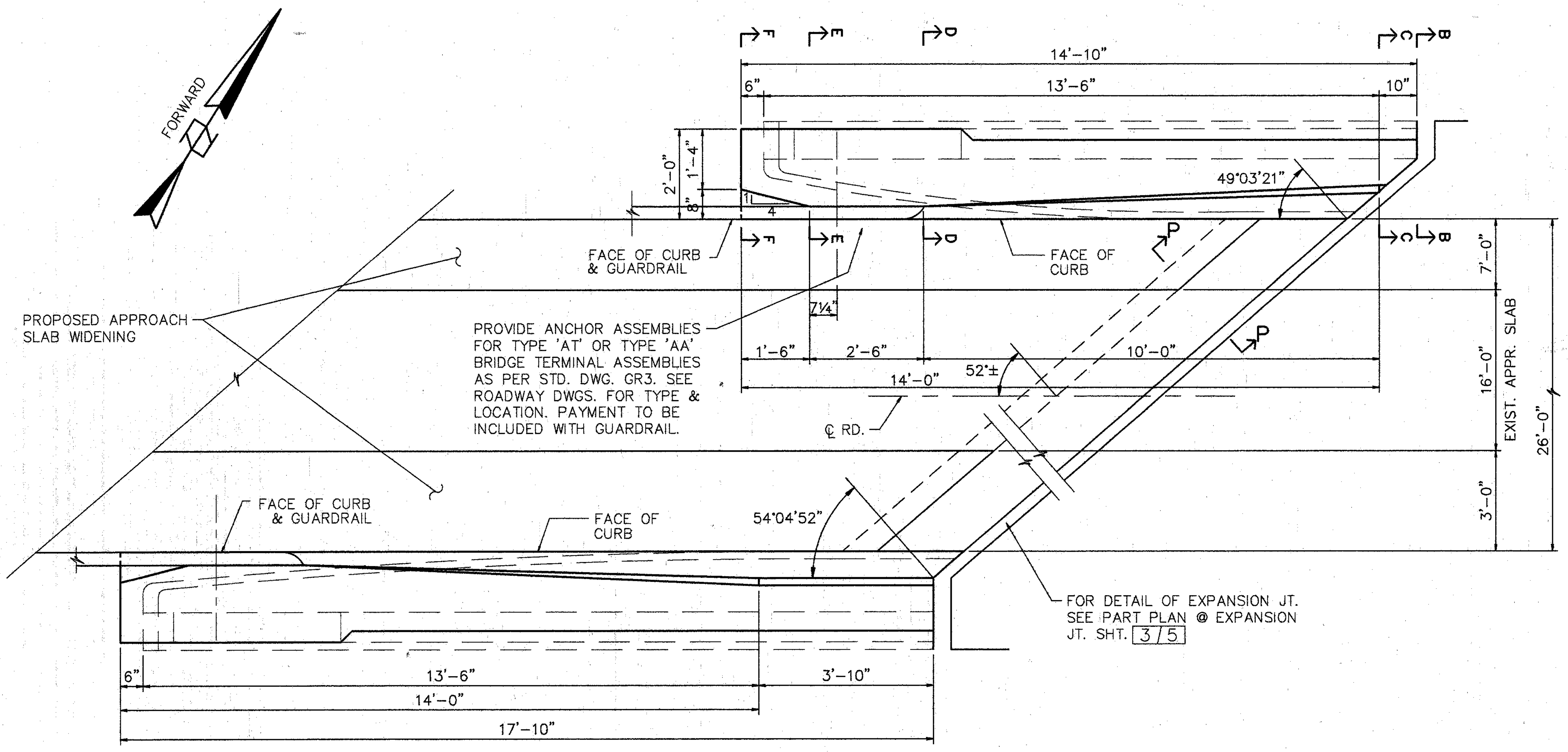
BRIDGE NO. HAM-71-0987
OVER I-71

HAMILTON COUNTY

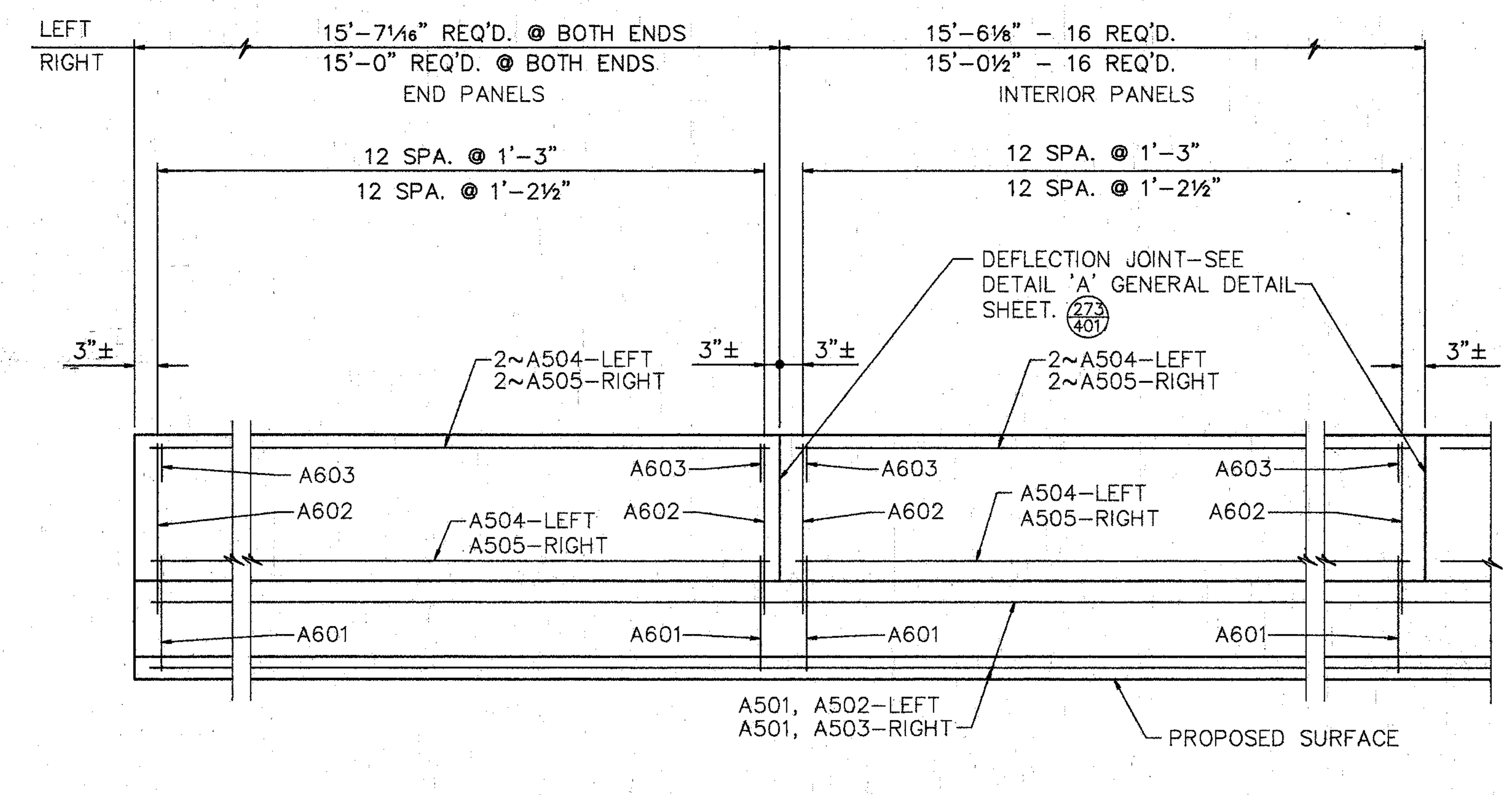
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.	L.A.P.		M.A.A.	D.E.M 11/11/94	

Last Plot: MAY 15, 1991 @ 7:15 PM Last Revision By: D.E.E. SEPT. 22, 1992 @ 6:36 AM
G:\STR\6586-03\71-0987

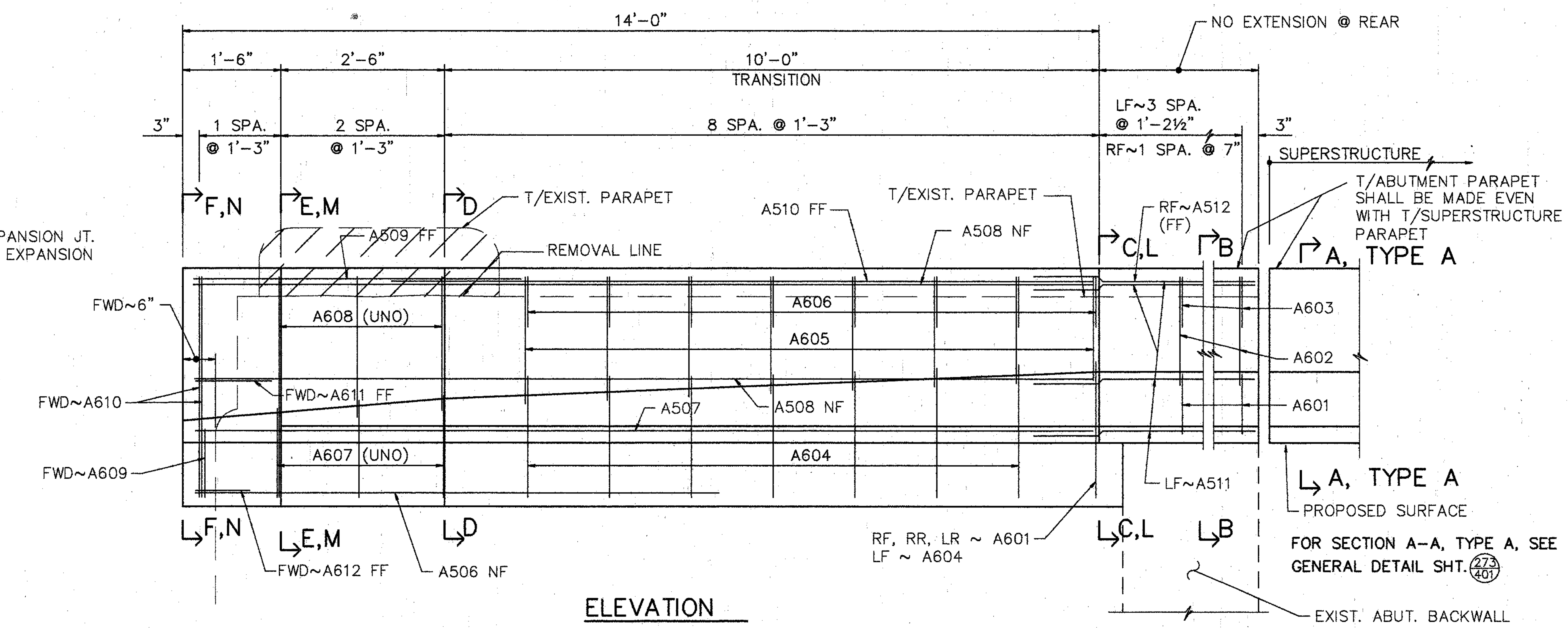
CALC. BY L.A.T.M. DATE 9-23-92 / CHK'D BY D.E.M. DATE 10-9-94	HAM-71-1.30/9.00	OHIO F.H.W.A. REGION 5	390/401



PLAN – FORWARD ABUTMENT MODIFICATION

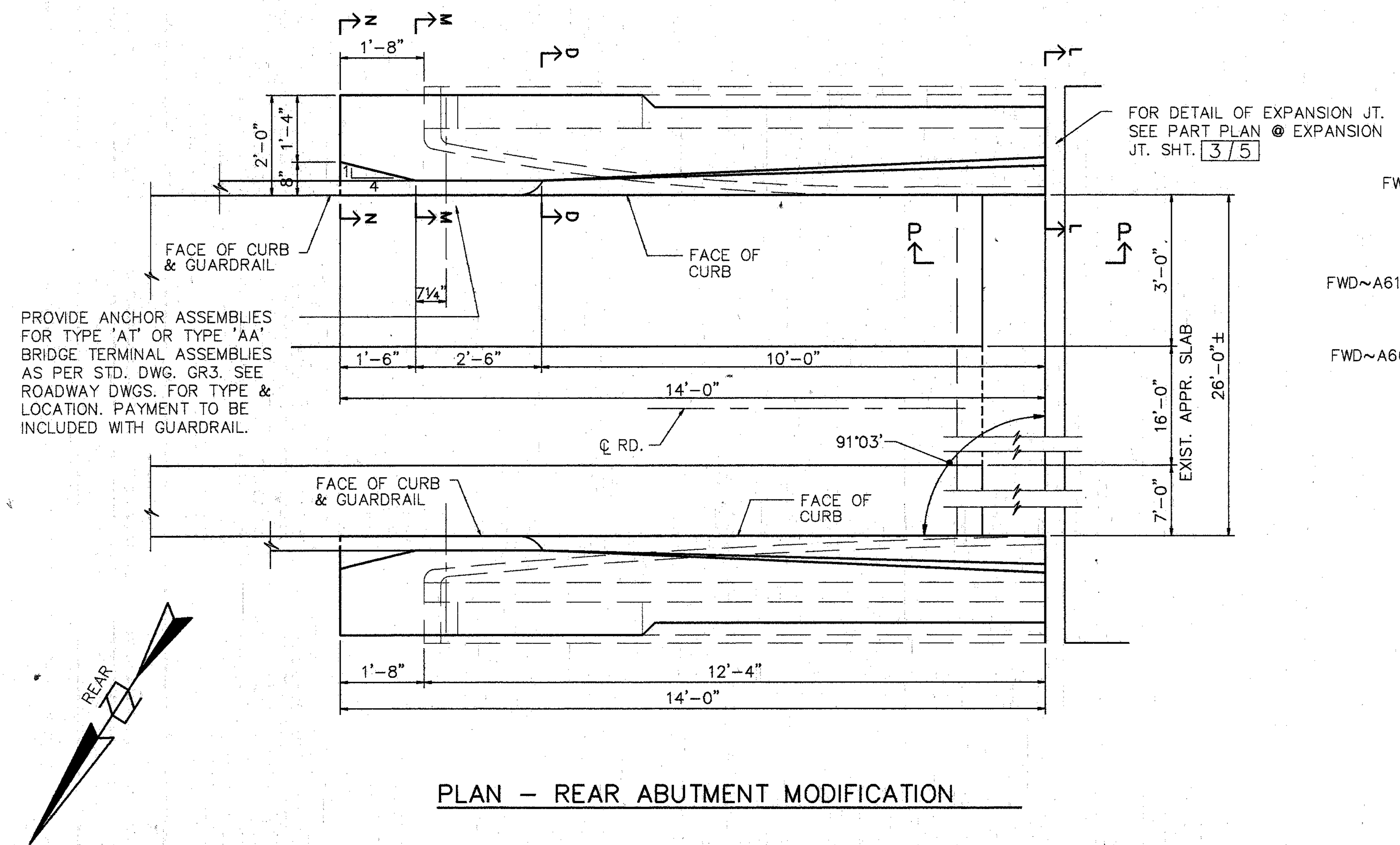


ELEVATION SUPERSTRUCTURE PARAPET



ELEVATION

FORWARD ABUT. USES SECT. C–C, D–D, E–E AND F–F
REAR ABUT. USES SECT. L–L, D–D, M–M AND N–N
SEE SHT. 4/5



PLAN – REAR ABUTMENT MODIFICATION

NOTE:
SEE SECTIONS D–D, L–L, M–M AND N–N FOR MODIFICATIONS AT REAR ABUTMENT AND BAR DESIGNATIONS NOT SHOWN.

NOTES:
1. PREFORMED EXPANSION JOINT FILLER AND SEALER AT CORNERS AND SIDES OF THE APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YD. FOR THE APPROACH SLAB.
2. TYPE A WATERPROOFING AT THE BRIDGE LIMIT END OF THE WIDENED APPROACH SLAB (AS PER STD. DWG. AS-1-81) SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611 *APPROACH SLAB.*

NOTES:
- L DENOTES LEFT SIDE
- R DENOTES RIGHT SIDE
- RF DENOTES RIGHT FORWARD
- LF DENOTES LEFT FORWARD
- RR DENOTES RIGHT REAR
- LR DENOTES LEFT REAR
- NF DENOTES NEAR FACE
- FF DENOTES FAR FACE

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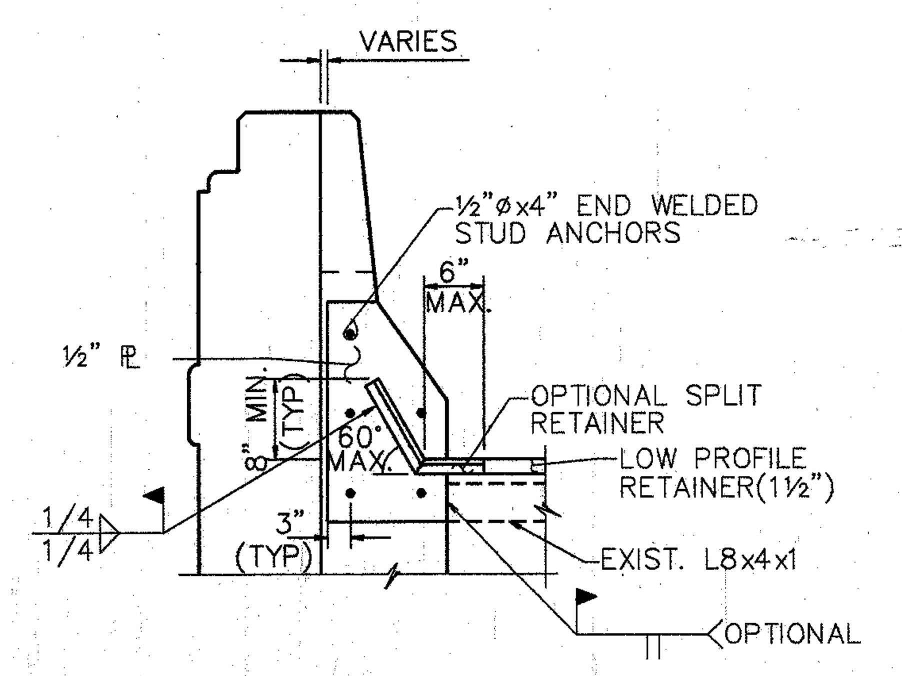
ABUTMENT PLAN & PARAPET ELEVATIONS

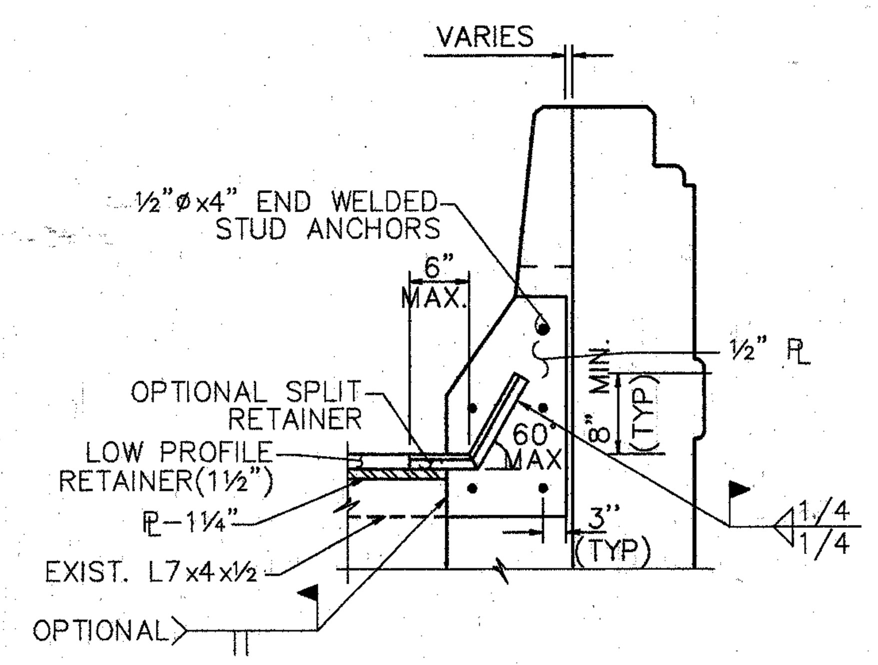
BRIDGE NO. HAM-71-0987
OVER I-71

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.	L.A.P.		M.A.A.	D.E.M.	11/11/94	



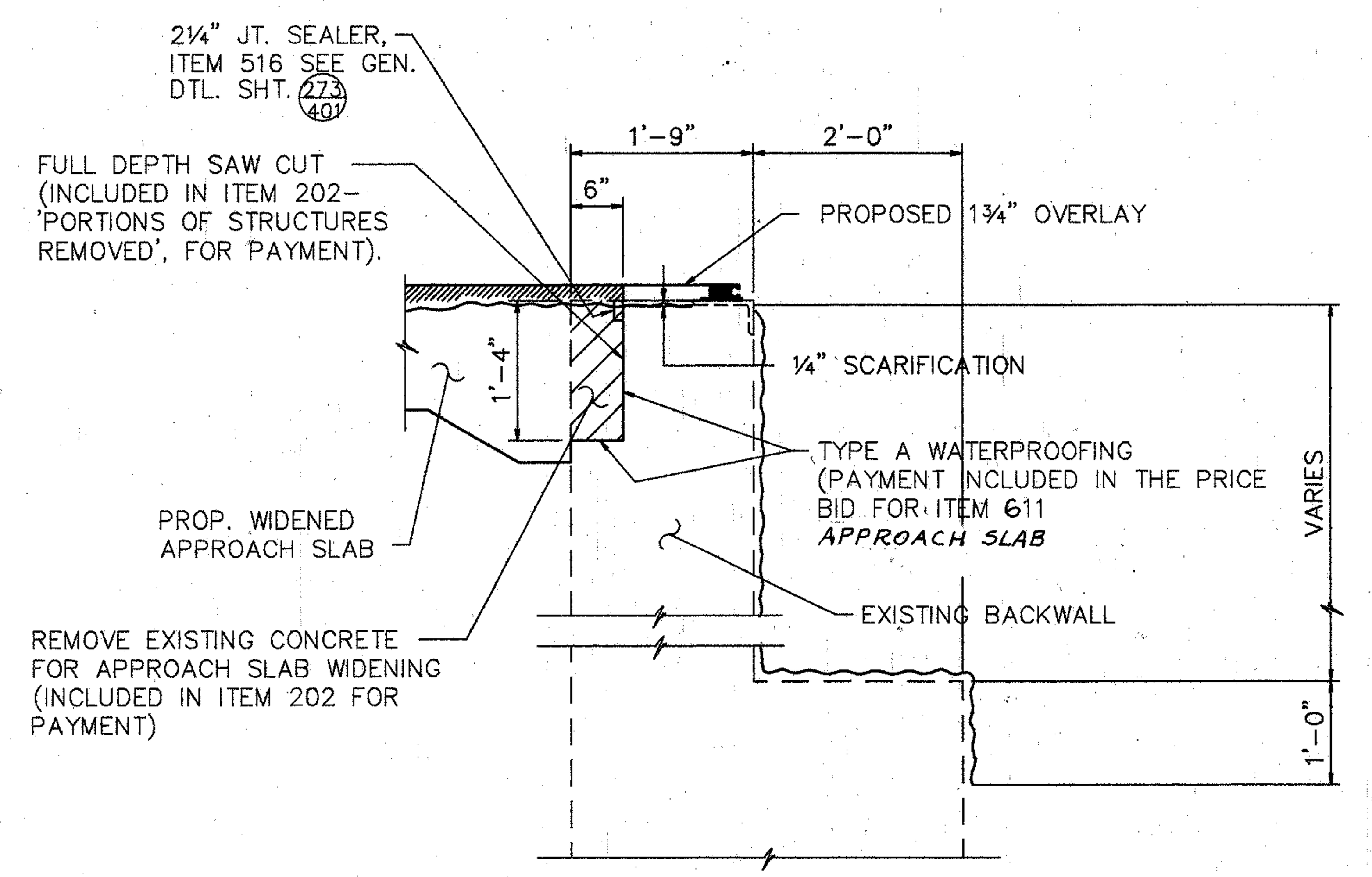
SECTION G–G



SECTION H–H

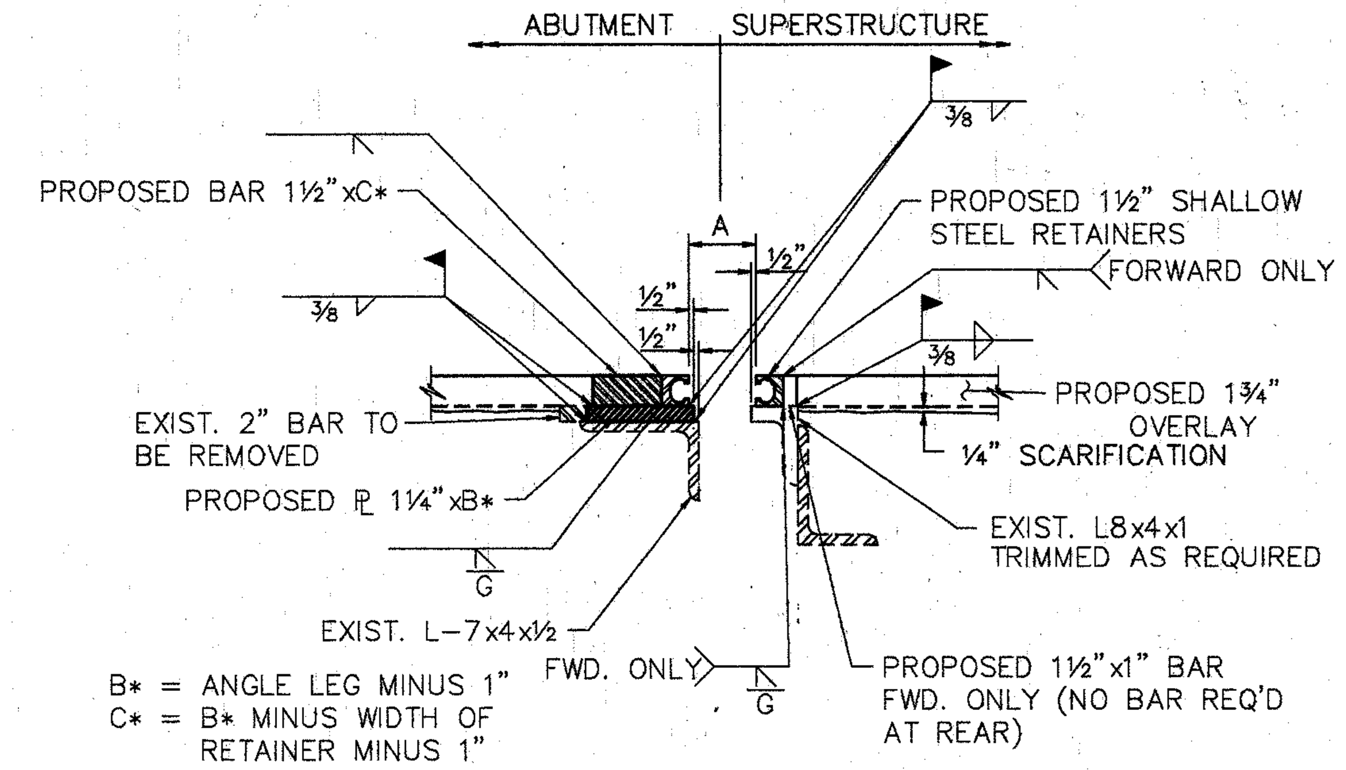
NOTE:

1. EXPANSION JT. DETAILS TO BE WORKED WITH STD. DWG. EXJ–4–87 SHTS. 1 thru 5.
2. WHEN PLATE IS RECESSED INTO ABUTMENT, CONCRETE BELOW PLATE SHALL BE SLOPED FROM BOTTOM OF THE PLATE TO THE END OF THE ABUTMENT TO DETER THE ACCUMULATION OF DEBIS.



SECTION P–P

SURFACE TO BE SEALED UNDER ITEM SPECIAL– 'SEALING OF CONCRETE SURFACE, EPOXY'.

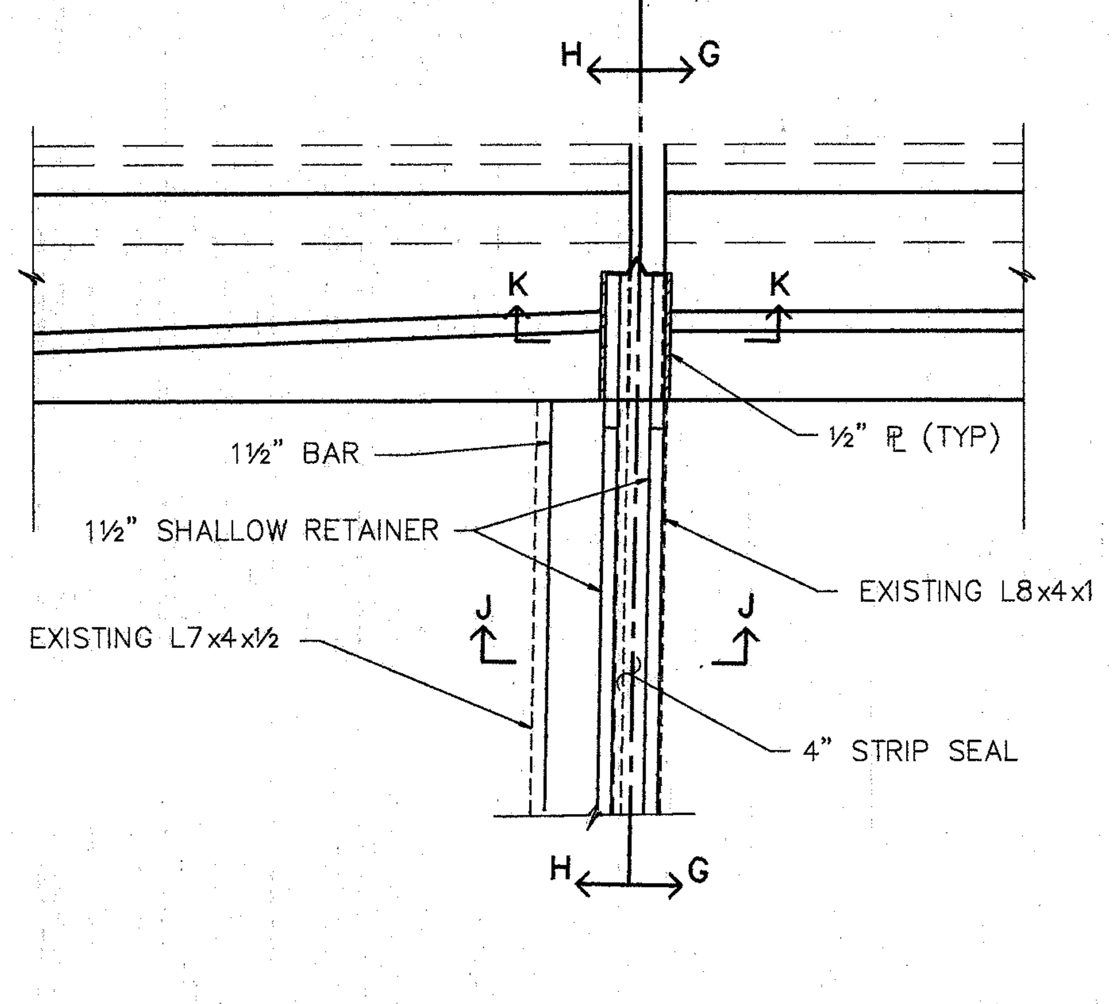


SECTION J–J

NOTES:

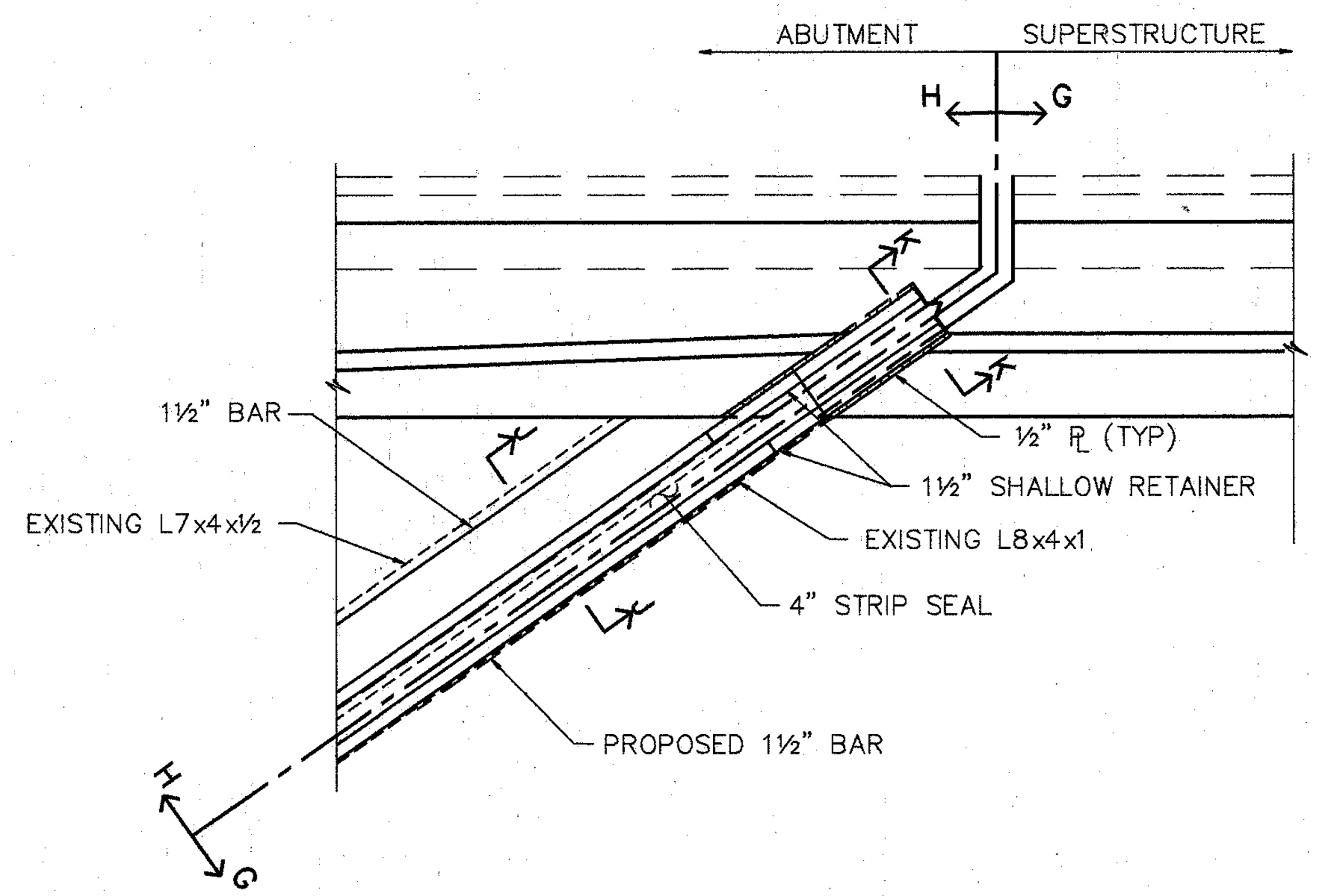
1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO MODIFYING EXPANSION JOINT.
2. THE PRICE BID FOR ITEM 516–'STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS, SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY OTHER INCIDENTIAL ITEMS, AS DETAILED. (REMOVAL OF CURB OR PARAPET AS SHOWN SHALL BE INCLUDED UNDER ITEM 202– 'PORTIONS OF STRUCTURE REMOVED').
3. FOR DETAILS NOT SHOWN REFER TO DWG. EXJ–4–87 SHTS. 3 AND 4.

TEMPERATURE	DIM. 'A'
40° F	3"
50° F	2⅞"
60° F	2¾"
70° F	2¾"
80° F	2⅝"
90° F	2½"



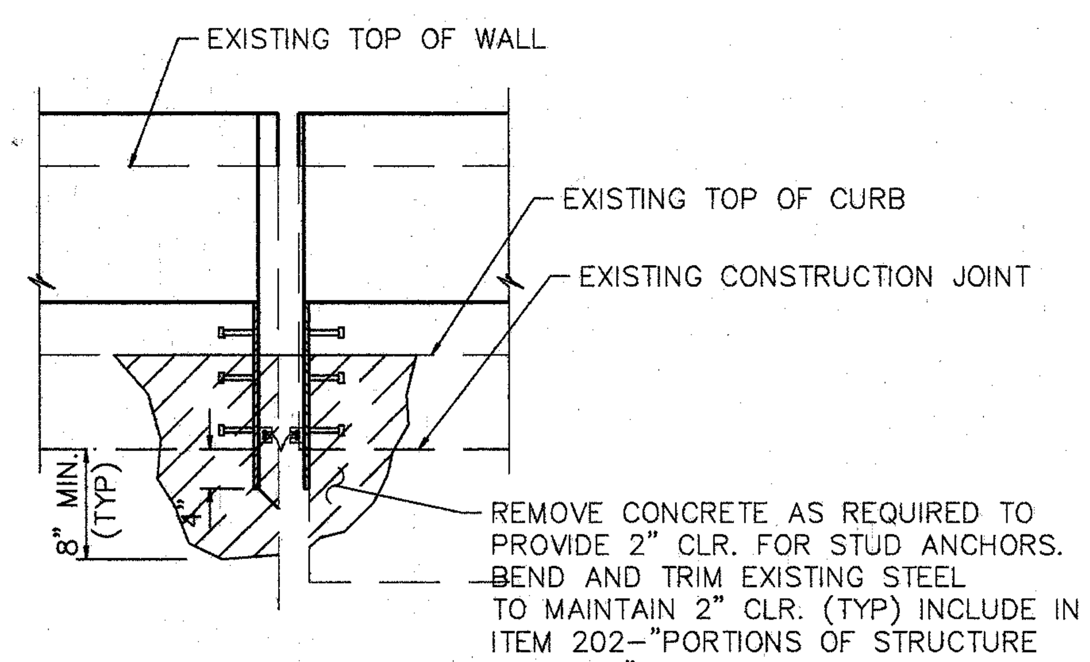
PART PLAN – REAR ABUTMENT (RIGHT)

(LEFT OPPOSITE HAND)



PART PLAN – FORWARD ABUTMENT (RIGHT)

(LEFT OPPOSITE HAND)



SECTION K–K

SEE NOTES ON SHEET 2/5.

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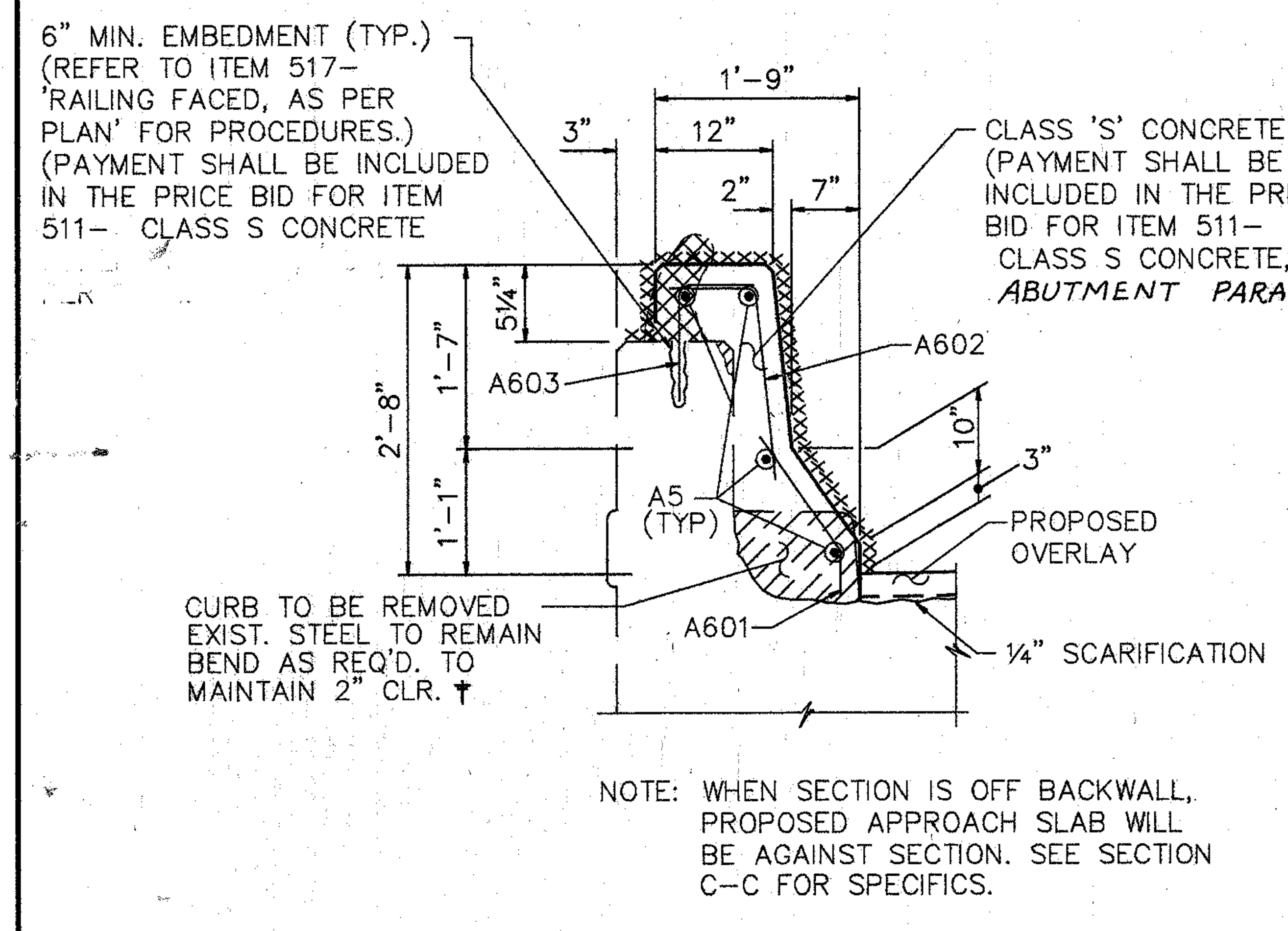
MISCELLANEOUS DETAILS

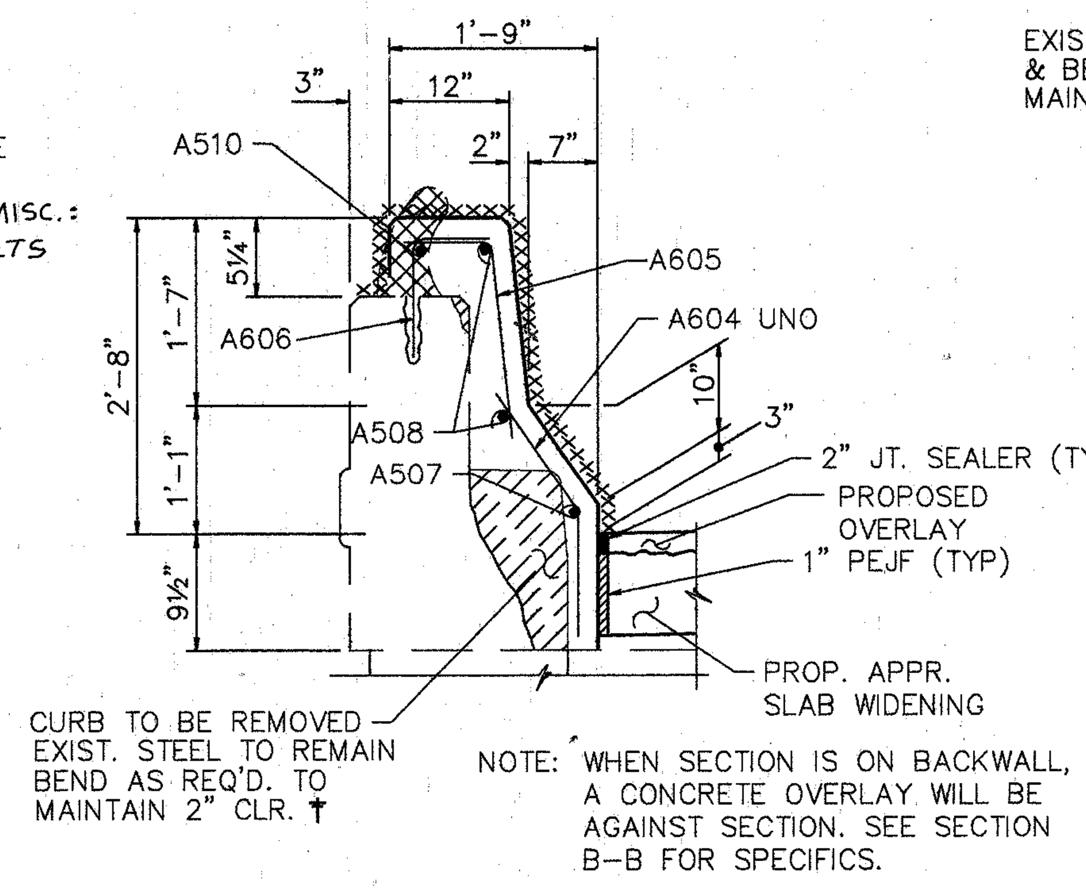
BRIDGE NO. HAM–71–0987
OVER I–71

HAMILTON COUNTY

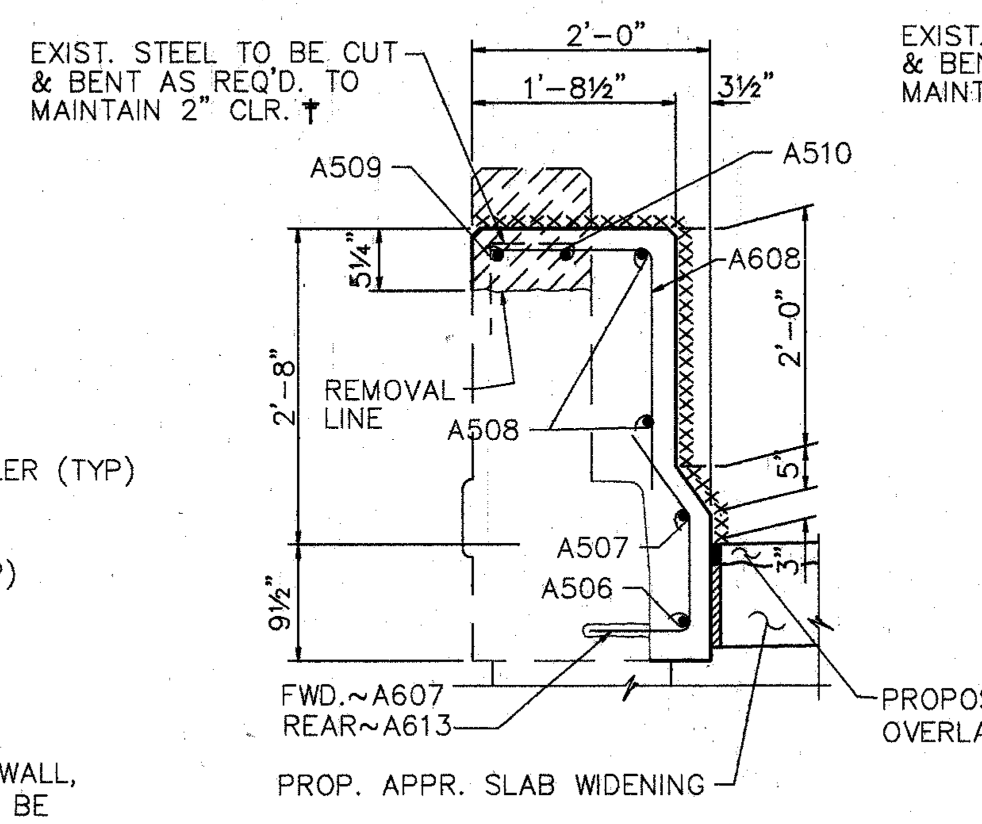
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.	L.A.P.		M.A.A.	D.E.M.	1/11/94	



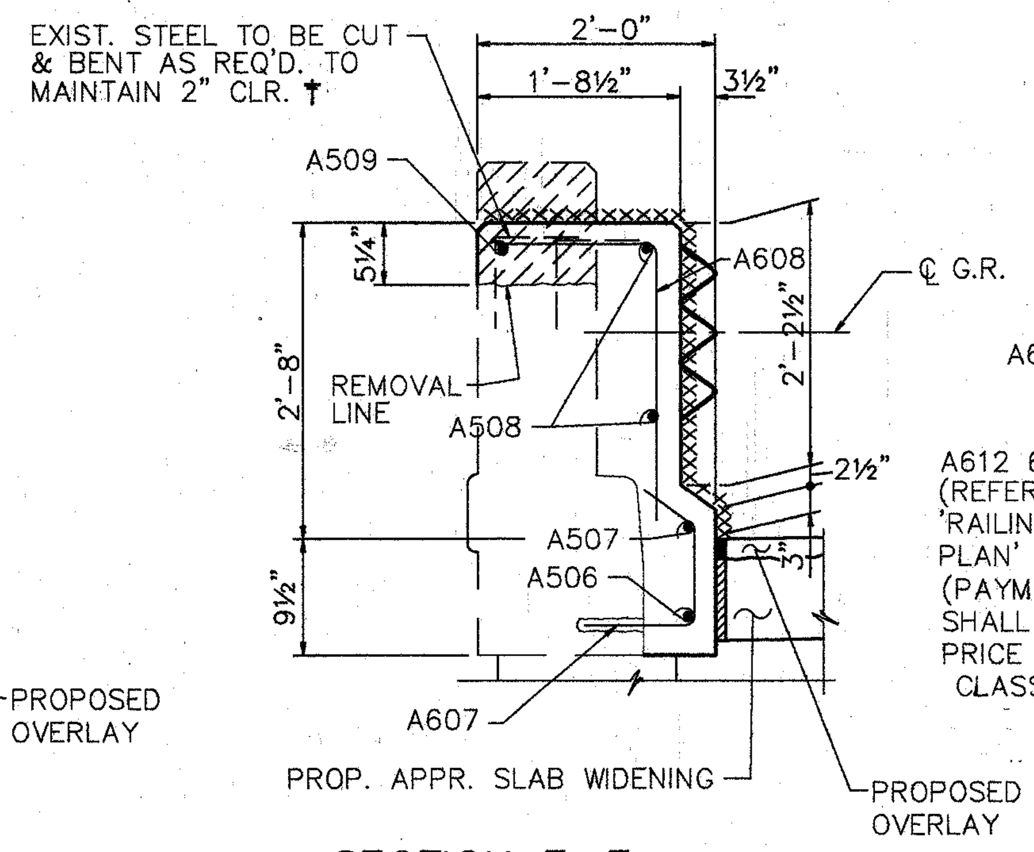
SECTION B-B



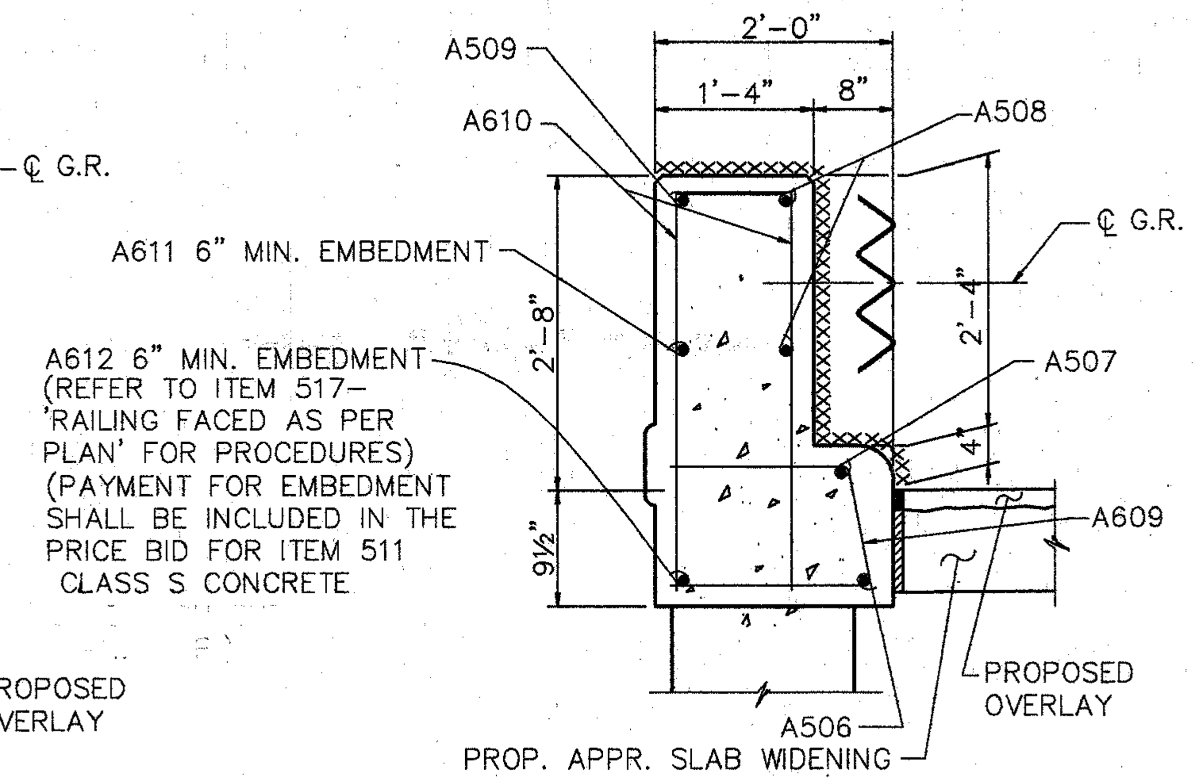
SECTION C-C



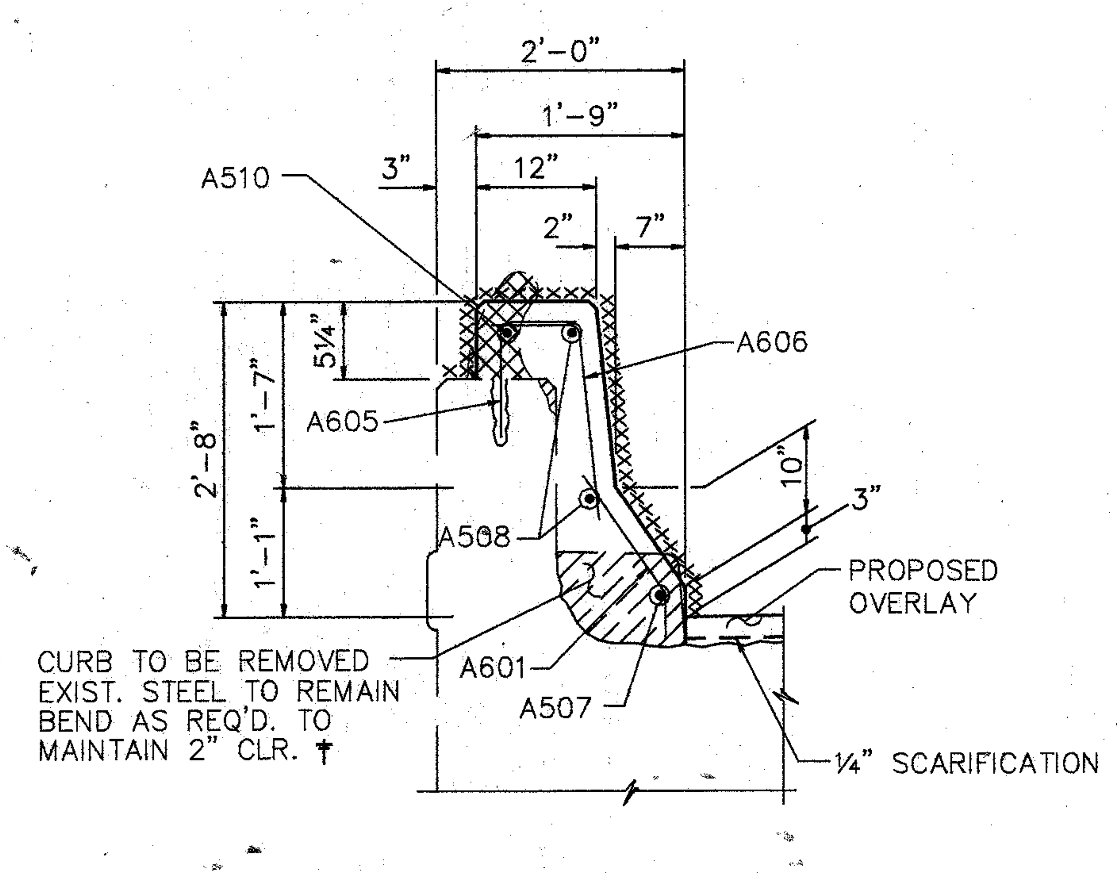
SECTION D-D



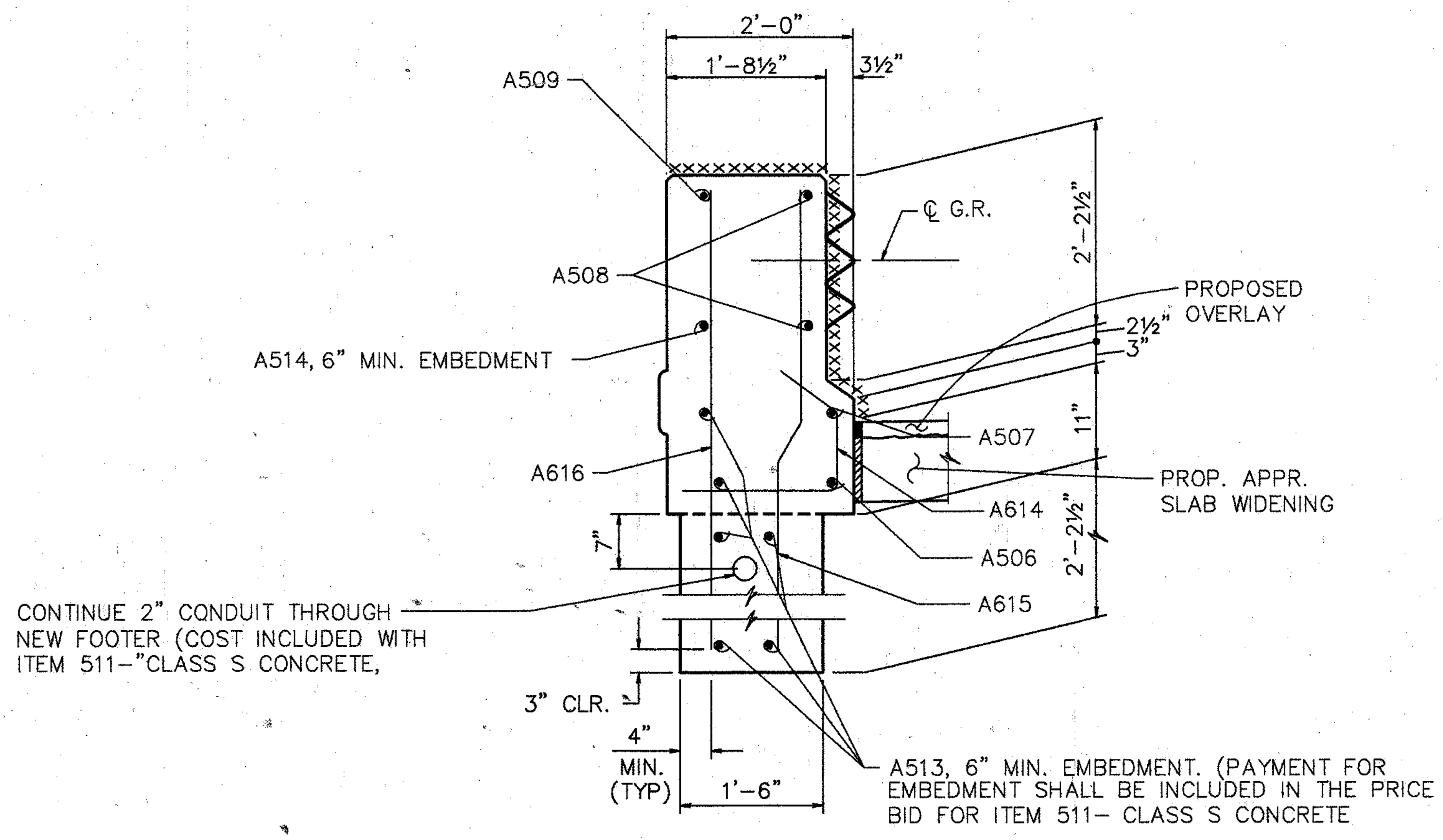
SECTION E-E



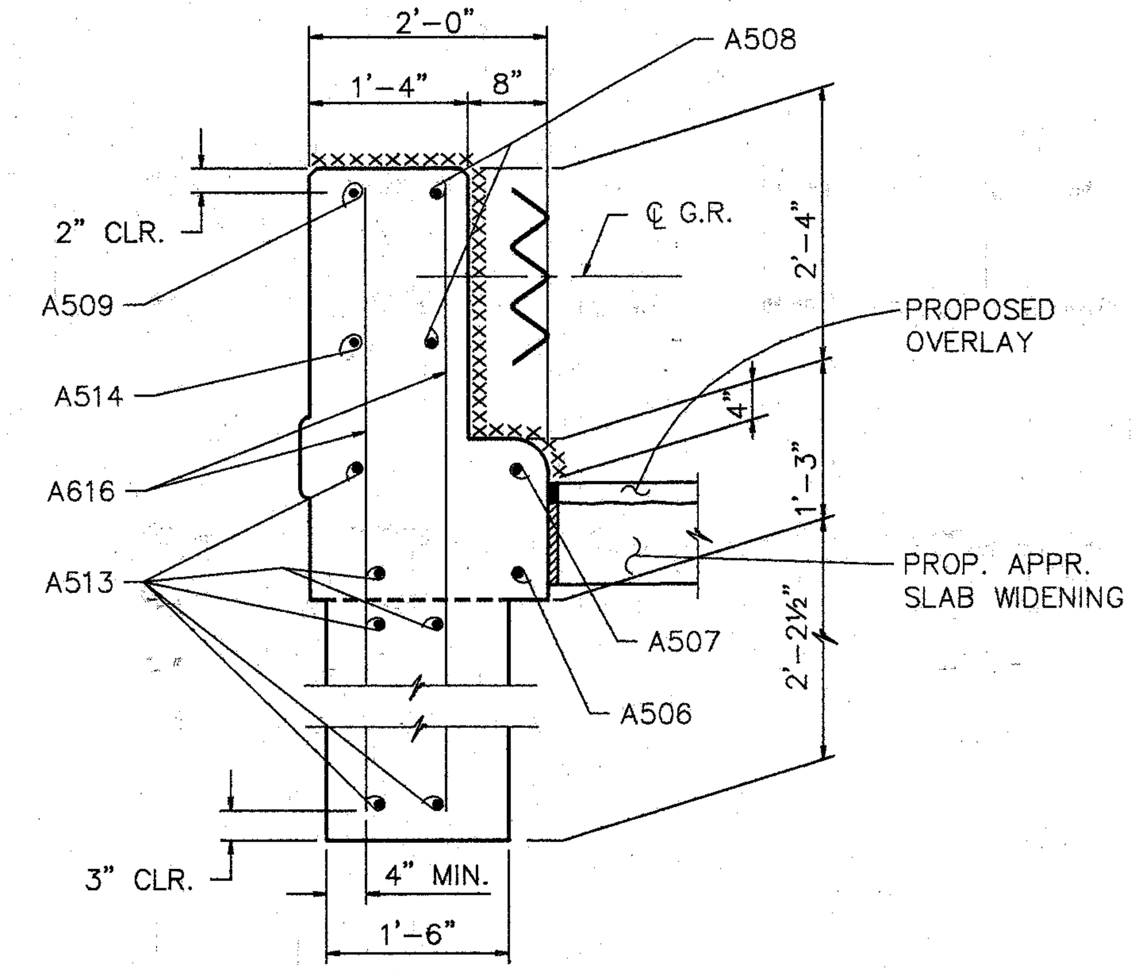
SECTION F-F



SECTION L-L



SECTION M-M



SECTION N-N

† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO INSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONCRETE REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.

EXISTING CURB AND PARAPET TO BE REMOVED UNDER ITEM 202-PORTIONS OF STRUCTURE REMOVED.

EXISTING RAILING & POSTS TO BE REMOVED & STACKED NEATLY ALONG THE RIGHT OF WAY FOR DISPOSAL BY THE CONTRACTOR. ALL WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202-PORTIONS OF STRUCTURE REMOVED.

xxxxxx SURFACES TO BE SEALED UNDER ITEM SPECIAL-SEALING OF CONCRETE SURFACES.

NOTES:
1. PREFORMED EXPANSION JOINT FILLER AND SEALER AT CORNERS AND SIDES OF THE APPROACH SLAB SHALL BE INCLUDED IN THE PRICE BID PER SQ. YD. FOR THE APPROACH SLAB.
2. TYPE A WATERPROOFING AT THE BRIDGE LIMIT END OF THE WIDENING APPROACH SLAB (AS PER STD. DWG. AS-1-81) SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611- *APPROACH SLAB*

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PARAPET SECTIONS AND DETAILS

BRIDGE NO. HAM-71-0987
OVER I-71

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.	L.A.P.		M.A.A.	D.E.M.	11/11/94	

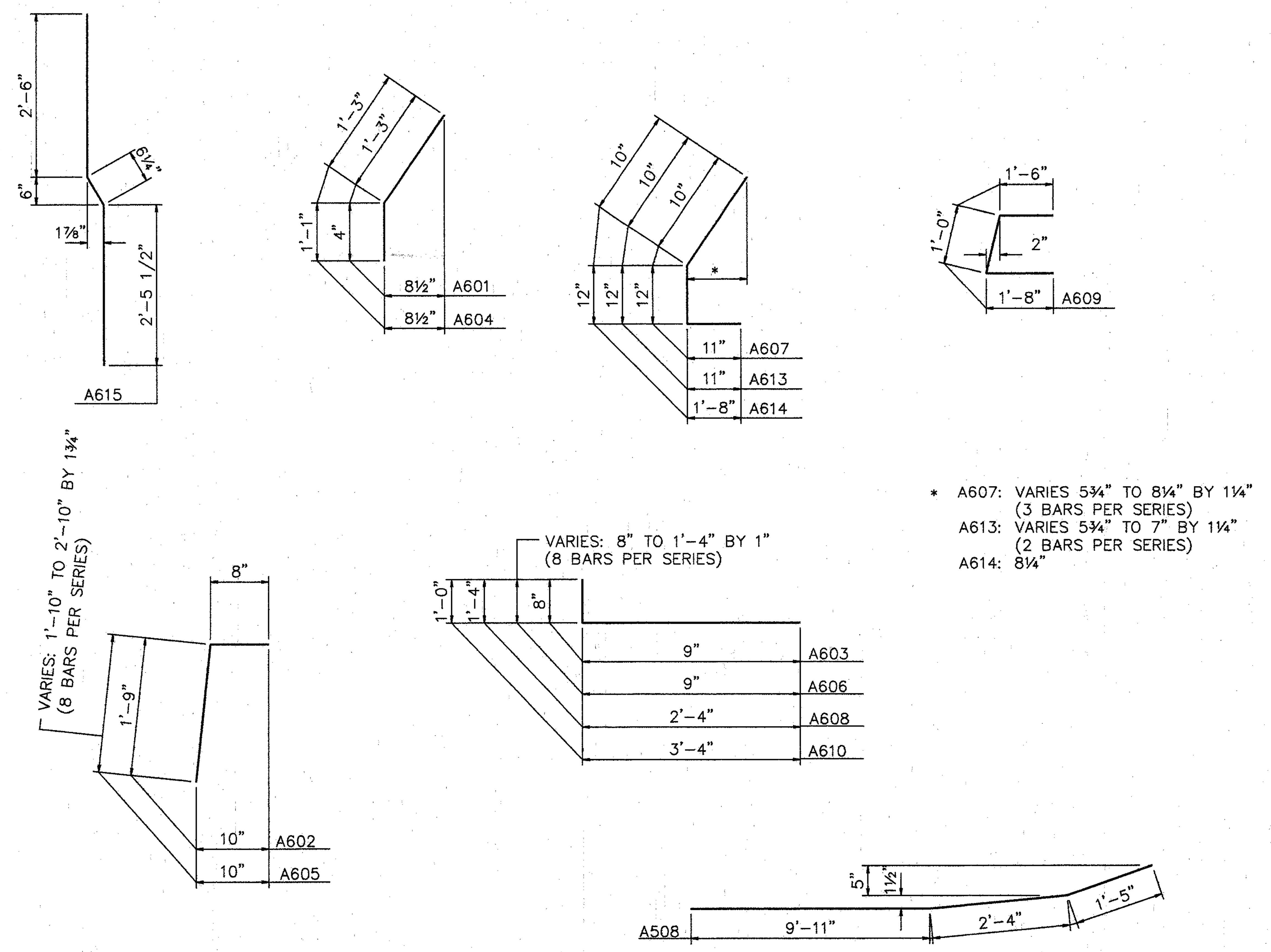
Last Plot: MAY 15, 1991 @ 8:11 PM G:\STR\16596-03\0987SHT4 Last Revision By: D.E.E. SEPT. 18, 1992 @ 2:00 PM

CALC BY LATM DATE 4-23-94 / CHK'D BY DEM DATE 10-4-94	HAM-71-1.30/9/00	OHIO F.H.W.A. REGION 5	393 / 401

REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
PARAPETS				
A501	STR.	36	30'-0"	1126
A502	STR.	2	27'-0"	56
A503	STR.	2	19'-10"	41
A504	STR.	54	15'-2"	854
A505	STR.	54	14'-8"	826
A506	STR.	4	8'-0"	33
† A507	BNT.	4	13'-8"	57
A508	BNT.	8	13'-8"	114
A509	STR.	4	5'-0"	21
A510	STR.	4	11'-0"	46
A511	STR.	4	6'-4"	26
A512	STR.	1	2'-8"	3
A513	STR.	12	2'-0"	25
A514	STR.	2	2'-4"	5
A601	BNT.	475	1'-6"	1070
A602	BNT.	471	2'-5"	1710
A603	BNT.	472	1'-3"	886
A604	BNT.	29	2'-3"	98
A605	BNT.	32	2'-6" TO 3'-6"	144
A606	BNT.	32	1'-3" TO 1'-11"	76
A607	BNT.	6	2'-6"	23
A608	BNT.	10	3'-6"	53
A609	BNT.	2	3'-10"	12
A610	BNT.	4	4'-2"	25
A611	STR.	2	1'-2"	4
A612	STR.	2	10"	3
A613	BNT.	4	2'-6"	15
A614	BNT.	2	3'-3"	10
A615	BNT.	2	5'-5"	16
A616	STR.	6	5'-4"	48
REPLACEMENT STEEL				300
			TOTAL	7726

BENT BAR DETAILS



† BEND IN FIELD AS REQUIRED.

PROPOSED WORK

1. MODIFY PARAPETS ON THE SUPERSTRUCTURE & ABUTMENTS. SEAL PARAPETS AS SHOWN ON PLANS. (INSTALL PLATES FOR STRIP SEAL EXP. JT.).
2. SCARIFY EXISTING DECK ¼", AND REMOVE DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER.
3. PLACE 1¾" THICK LATEX MODIFIED CONCRETE ON DECK.
4. SEAL PARAPETS, BACKWALL, AND PIERS.
5. SEAL JOINTS, AS NOTED.
6. SEAL EXPANSION JOINT WITH STRIP SEAL.
7. PLACE GUARDRAIL AS SHOWN ON ROADWAY PLANS.
8. EXTEND SCUPPERS.
9. PAINT EXISTING STEEL STRUCTURE.
10. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTENANCE OF TRAFFIC PLANS.
11. OTHER WORK AS DESCRIBED IN THESE PLANS.
12. REFURBISH ABUTMENT BEARINGS

ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	L.S.	PORTIONS OF STRUCTURE REMOVED
509	15820	7726	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
511	34450	8	C.Y.	CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
SPECIAL	51267500	804	S.Y.	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	56	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
SPECIAL	51400050	14,350	S.F.	SURFACE PREPARATION OF EXIST. STEEL, SYSTEM OZEU *
SPECIAL	51400056	14,350	S.F.	FIELD PAINTING OF EXIST STEEL, PRIME COAT, SYSTEM OZEU *
SPECIAL	51400060	14,350	S.F.	FIELD PAINTING OF EXIST STEEL, INTERMEDIATE COAT, SYSTEM OZEU *
SPECIAL	51400066	14,350	S.F.	FIELD PAINTING OF EXIST STEEL, FINISH COAT, SYSTEM OZEU *
SPECIAL	51400504	100	MAN HOUR	GRINDING FINS, TEARS, AND SLIVERS *
516	10000	66	L.F.	PREFORMED ELASTOMERIC COMPRESSION JOINT SEAL (705.11)
516	11210	71	L.F.	STRUCTURAL EXP. JT. INCLUDING ELASTOMERIC STRIP SEAL
516	45304	8	EACH	REFURBISH BEARING DEVICE
517	76201	550	L.F.	RAILING FACED, AS PER PLAN (32" HIGH)
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
518	12700	7	EACH	SCUPPER, VERTICAL EXTENSION
518	12800	6	EACH	SCUPPER MODIFICATION
625				FOR LIGHTING SUMMARY SEE LIGHTING PLANS.
519	11100	125	S.F.	PATCHING CONCRETE STRUCTURE
845	40210	804	S.Y.	LATEX MODIFIED CONCRETE MISC OVERLAY (1¾" THICK) ON EXISTING DECK
845	11000	16	C.Y.	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)
845	30000	1	C.Y.	FULL DEPTH REPAIR

* SEE PROPOSAL NOTE

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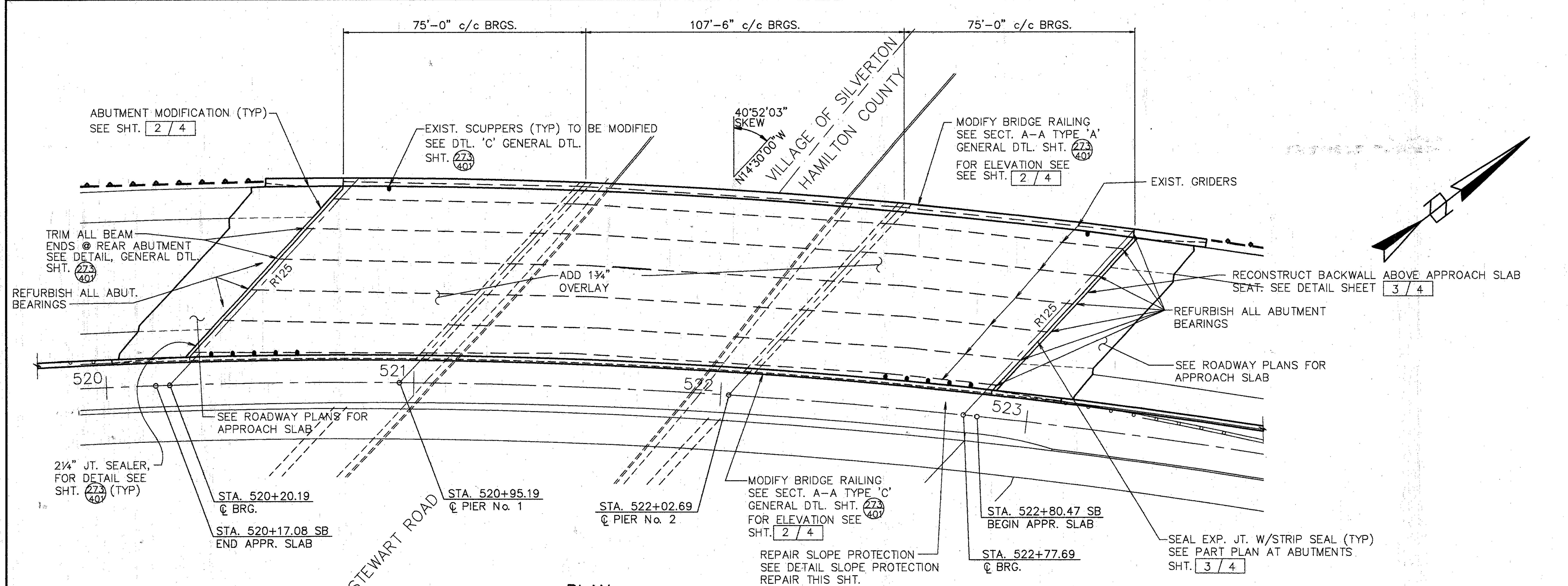
QUANTITIES AND GENERAL NOTES

BRIDGE NO. HAM-71-0987
OVER I-71

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.	L.A.P.		M.A.A.	D.E.M. 11/11/94	

Last Plot: MAY 15, 1991 @ 8:13 PM
Last Revision By: RACH MAY 17, 1994 @ 2:20 PM

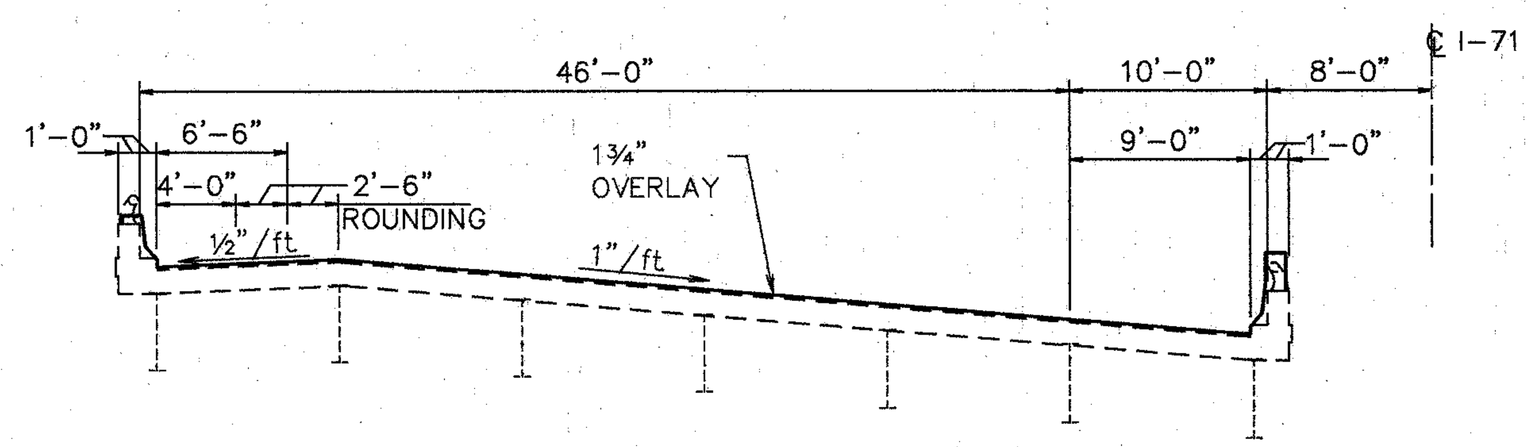


PLAN

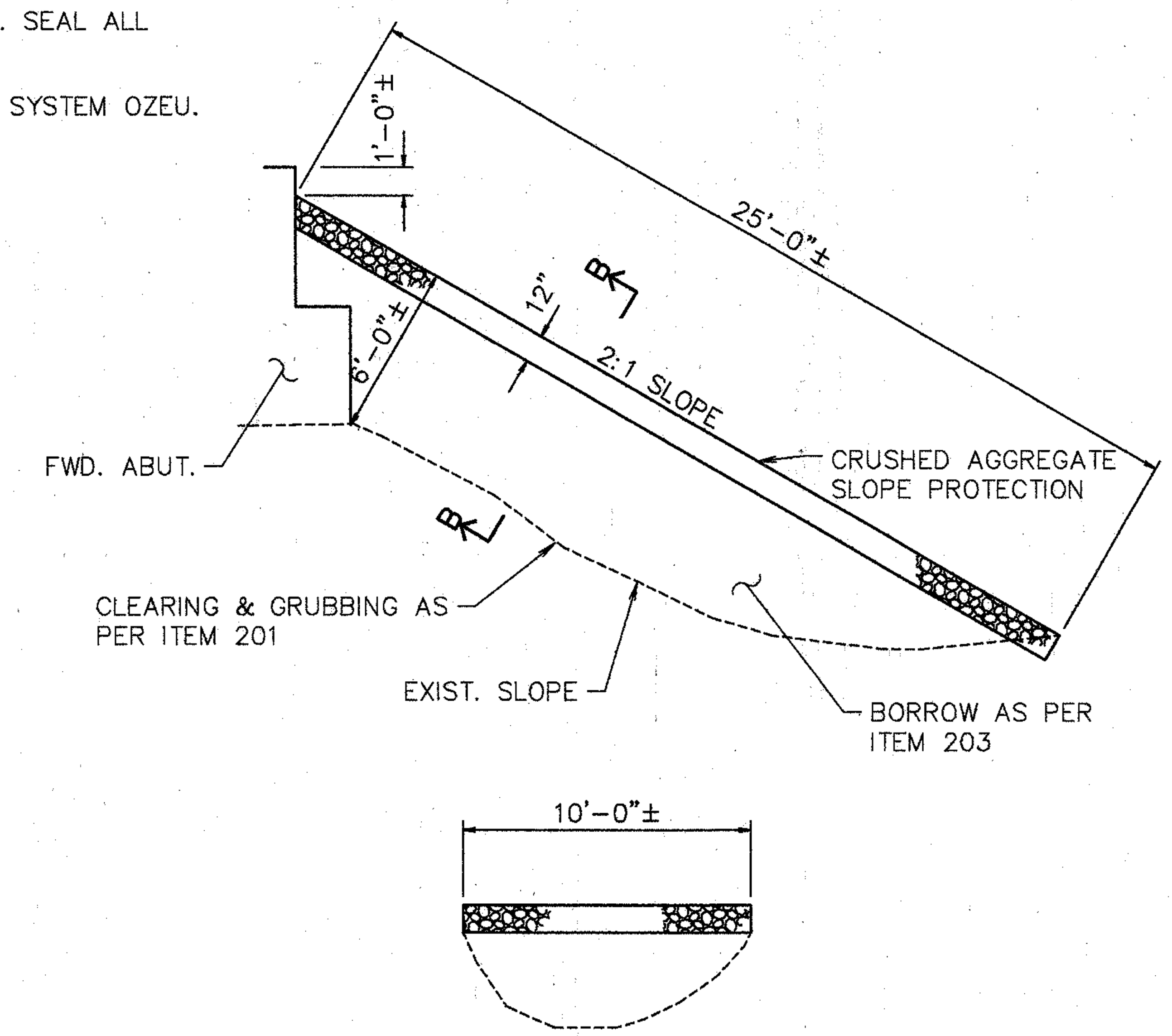
ROCKER OR BOLSTER SIZE	JACK CAPACITY REQ'D. (MIN)
R125	100 TON

NOTES:

1. EXTEND ALL SCUPPERS. FOR DTL. SEE GEN. DTL. SHT. 273/401
2. SEAL PARAPETS, PIERS, AND BACKWALL. SEAL ALL OF PIERS EXCEPT TOPS OF PIER CAPS.
3. PAINT EXISTING STEEL STRUCTURE WITH SYSTEM OZEU.



TYP. BRIDGE SECTION



SECTION B-B

SLOPE PROTECTION REPAIR

SLOPE PROTECTION REPAIR SHALL BE PAID FOR AS ITEM 601 CRUSHED AGGREGATE SLOPE PROTECTION AS PER PLAN. THE PRICE BID PER SQ. YARD SHALL INCLUDE CLEARING & GRUBBING AND BORROW AS REQUIRED TO CONFORM TO THE SLOPE AS SHOWN.

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL GIRDER WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: 75'-0", 107'-6", 75'-0"
ROADWAY: 56'-0" F/F PARAPET
SKEW: 40°-52'-03" LT. FORWARD
LOADING FREQUENCY: C.F.=2000 (57) ADEQUATE FOR A.A.S.H.O. ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: 3° HORIZONTAL CURVE TO THE RIGHT
SUPERELEVATION: 0.0833'/FT.
CURB: 1'-0" EACH SIDE

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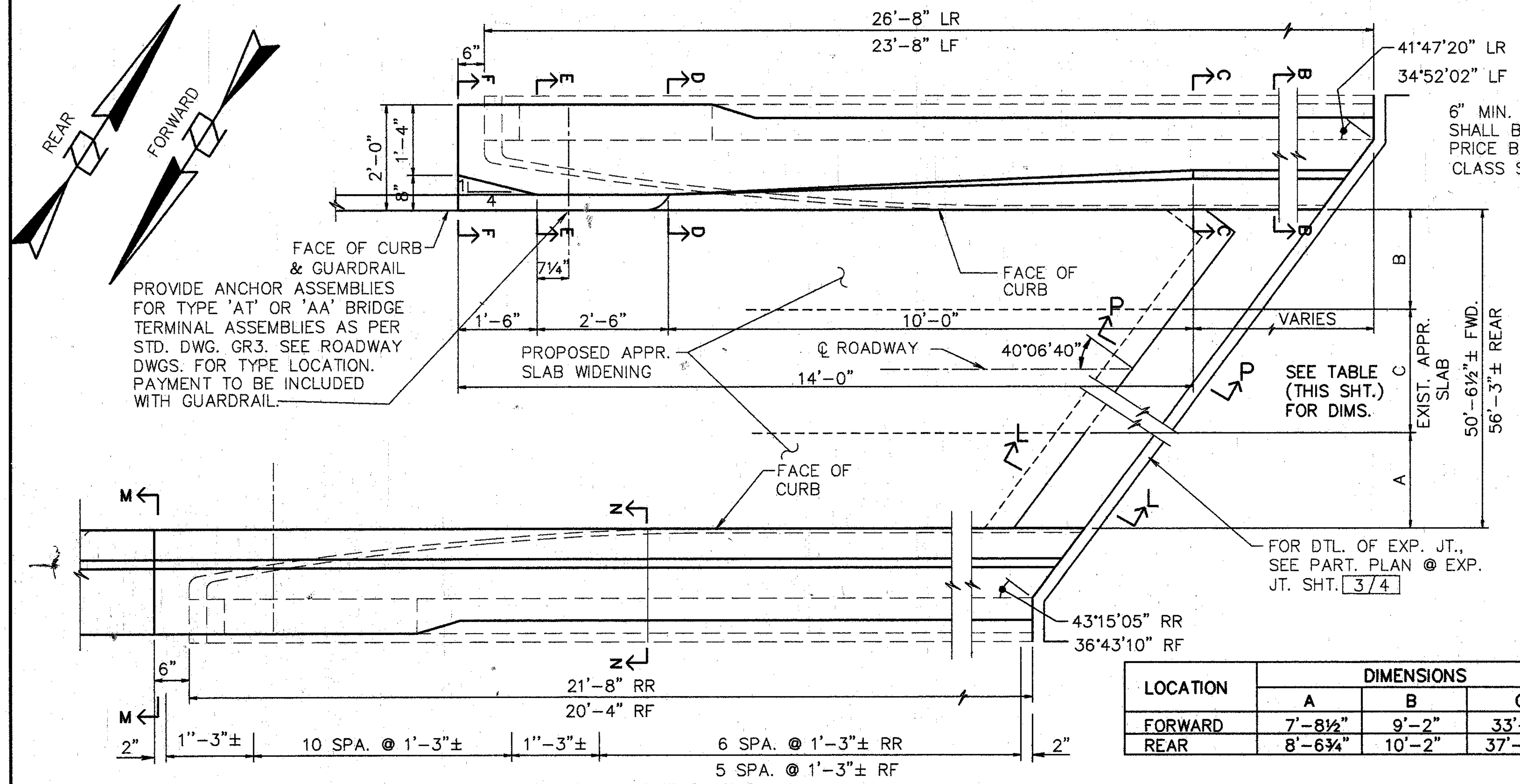
GENERAL PLAN

BRIDGE NO. HAM-71-1063 L
OVER CO. RD. NO.327

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M11/11/94	

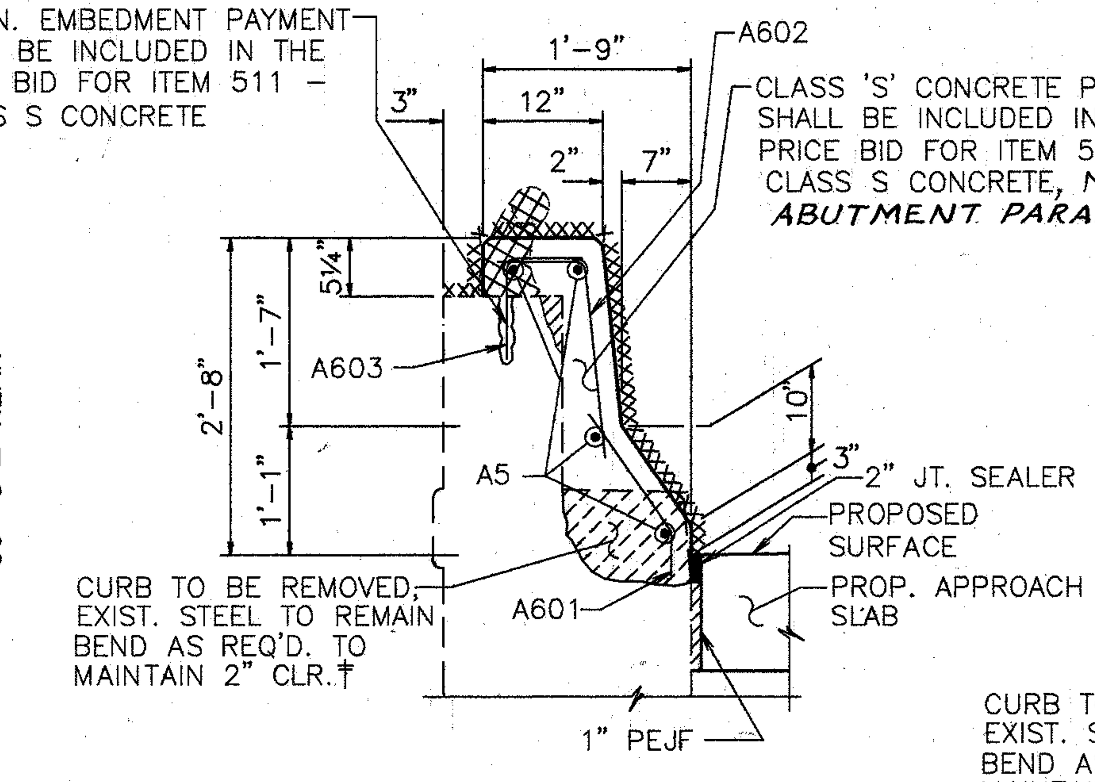
Last Plot JUN. 17, 1991 @ 7:58 AM
G:\STR\16596-03\71-1063L Last Revision By: RACH MAY 17, 1994 @ 2:11 PM



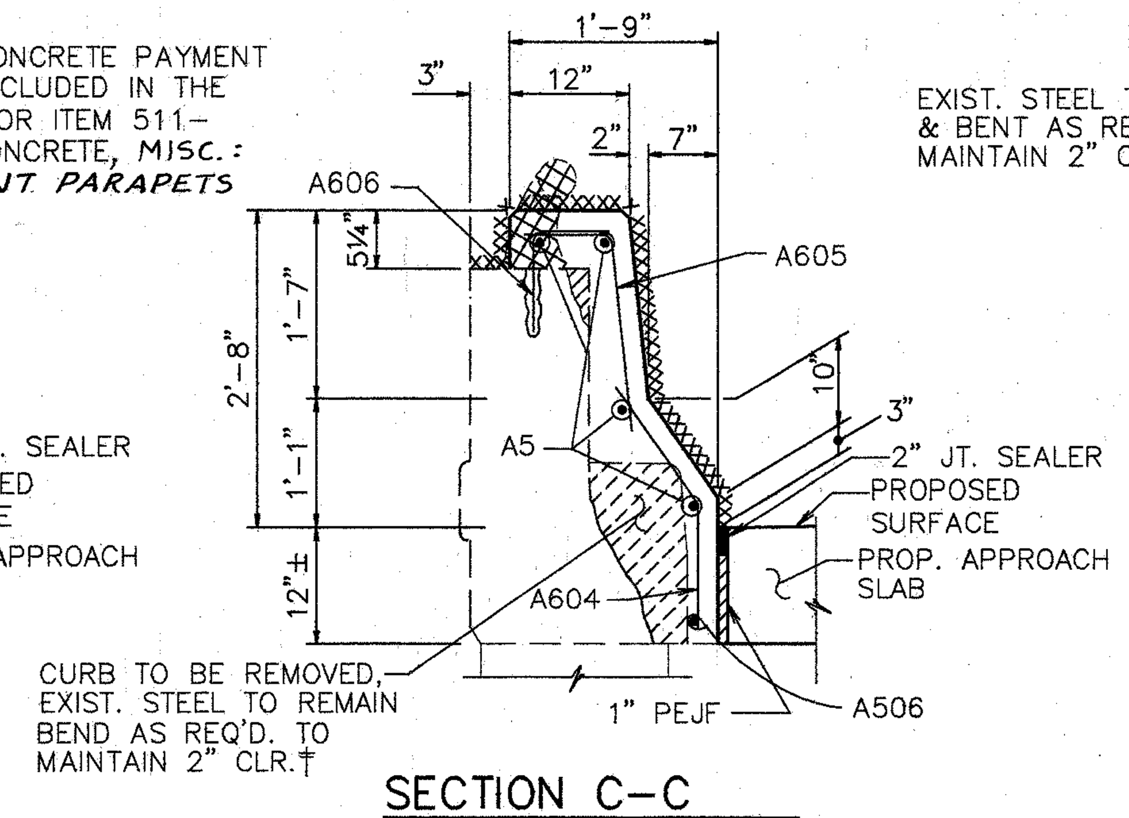
PLAN – ABUTMENT MODIFICATION

REAR SHOWN, FORWARD OPPOSITE HAND (SAME SKEW ANGLE).
SEE GENERAL PLAN FOR WINGWALL ORIENTATION AT FORWARD ABUTMENT.

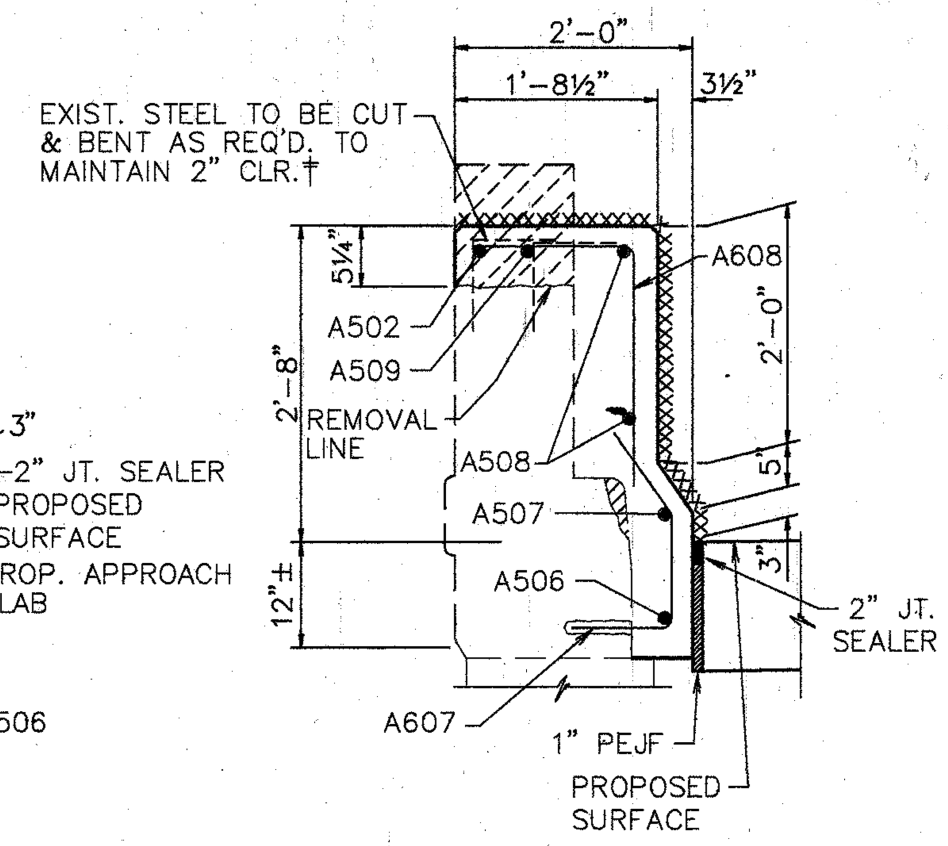
LOCATION	DIMENSIONS A	B	C
FORWARD	7'-8½"	9'-2"	33'-8"
REAR	8'-6¾"	10'-2"	37'-6¼"



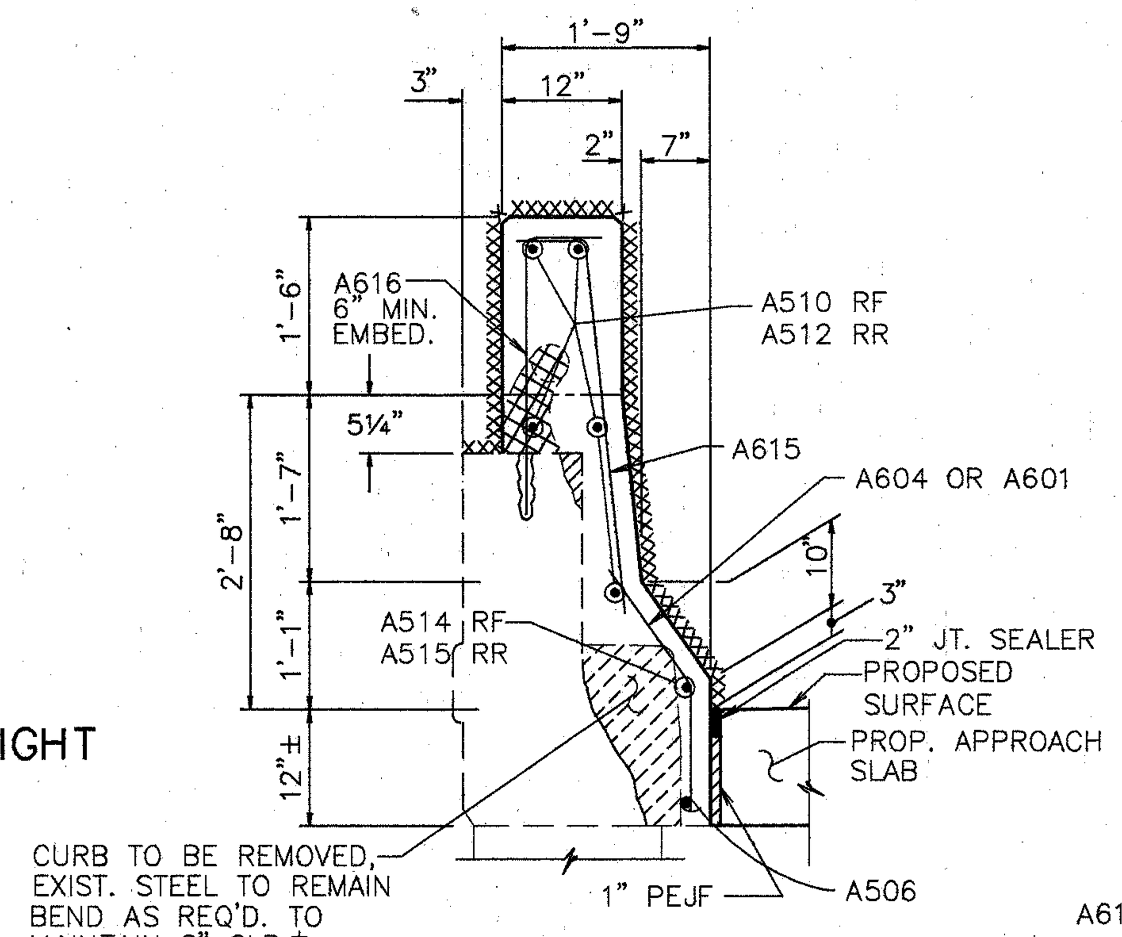
SECTION B–B



SECTION C–C

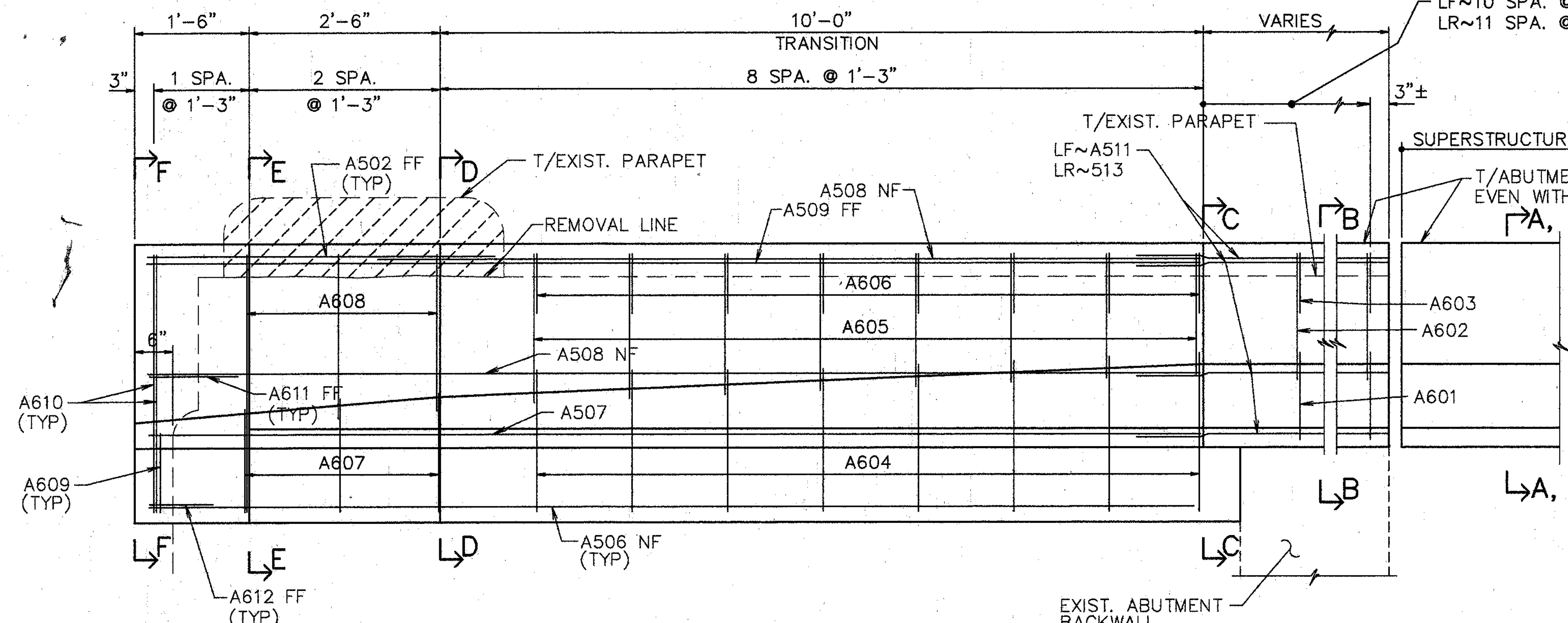


SECTION D–D



SECTION N–N

†BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONC. REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.

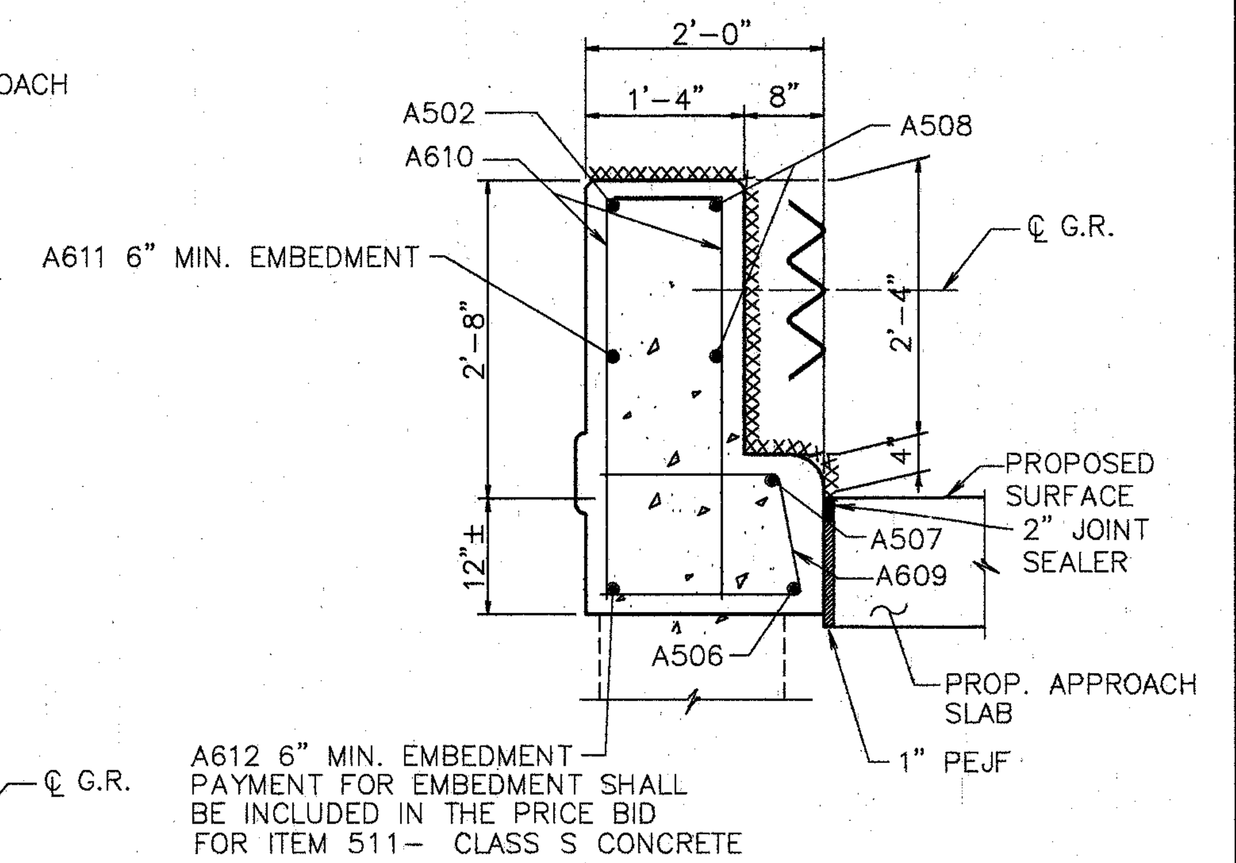


A, TYPE A LEFT, TYPE C RIGHT

FOR SECTION A-A SEE GENERAL DETAIL SHT. 273/407

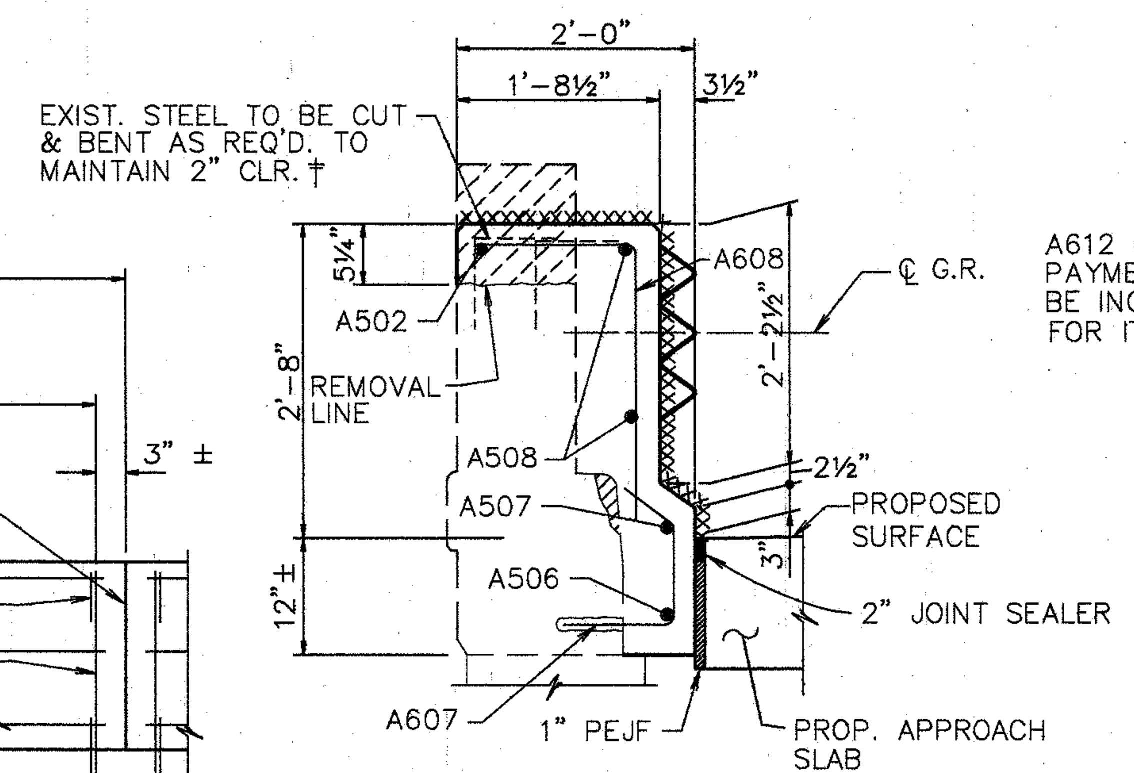
A, TYPE A LEFT, TYPE C RIGHT

ELEVATION–LEFT WALL

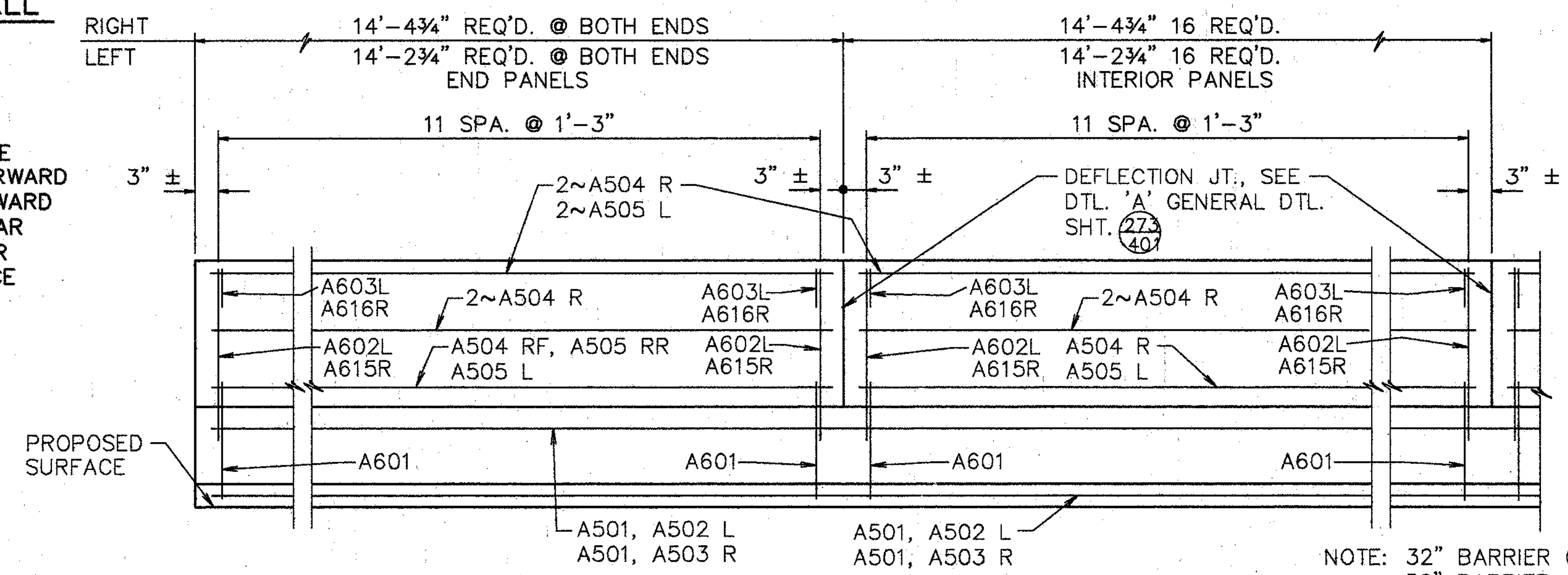


A612 6" MIN. EMBEDMENT PAYMENT FOR EMBEDMENT SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 511– CLASS S CONCRETE

SECTION F–F



SECTION E–E



ELEVATION SUPERSTRUCTURE PARAPET

NOTE: 32" BARRIER ON LEFT
50" BARRIER ON RIGHT

▨ EXIST. CURB & PARAPET TO BE REMOVED UNDER ITEM 202–'PORTIONS OF STRUCTURE REMOVED'.

☒ EXIST. RAILING & POSTS TO BE REMOVED & STACKED NEATLY ALONG THE RIGHT–OF–WAY FOR DISPOSAL BY THE CONTRACTOR. ALL WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202–'PORTIONS OF STRUCTURE REMOVED'.

XXXXXX SURFACES TO BE SEALED UNDER ITEM SPECIAL–'SEALING OF CONCRETE SURFACES.

NOTES:

L DENOTES LEFT SIDE
R DENOTES RIGHT SIDE
RF DENOTES RIGHT FORWARD
LF DENOTES LEFT FORWARD
RR DENOTES RIGHT REAR
LR DENOTES LEFT REAR
NF DENOTES NEAR FACE
FF DENOTES FAR FACE

NOTES:

1. TYPE 'A' WATERPROOFING AT THE BRIDGE LIMIT END OF THE APPROACH SLAB (AS PER STD. DWG. AS–1–81) SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611 APPROACH SLAB.

FOR OTHER SECTIONS SEE SHT. 3/4

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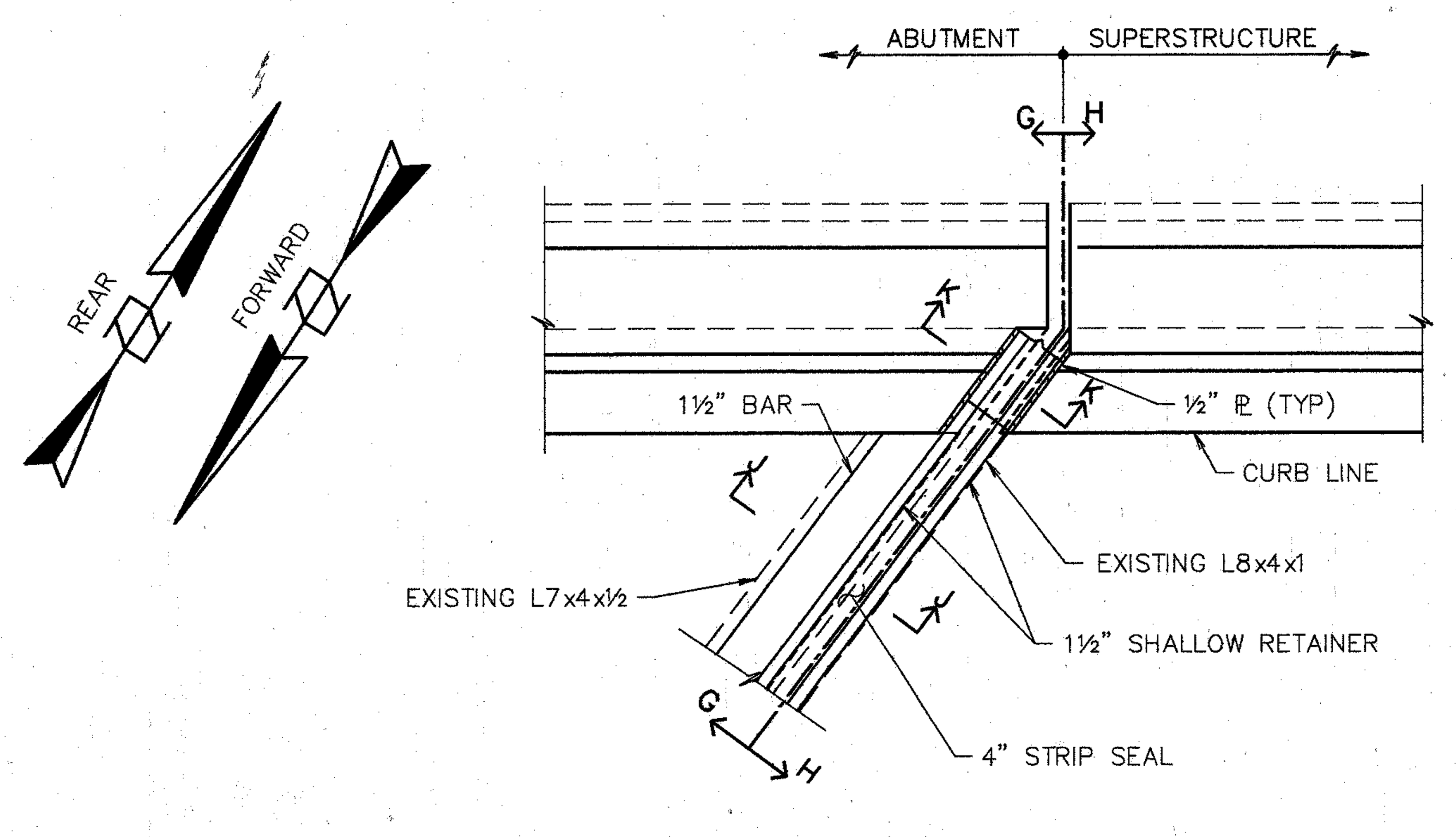
PARAPET SECTIONS AND DETAILS

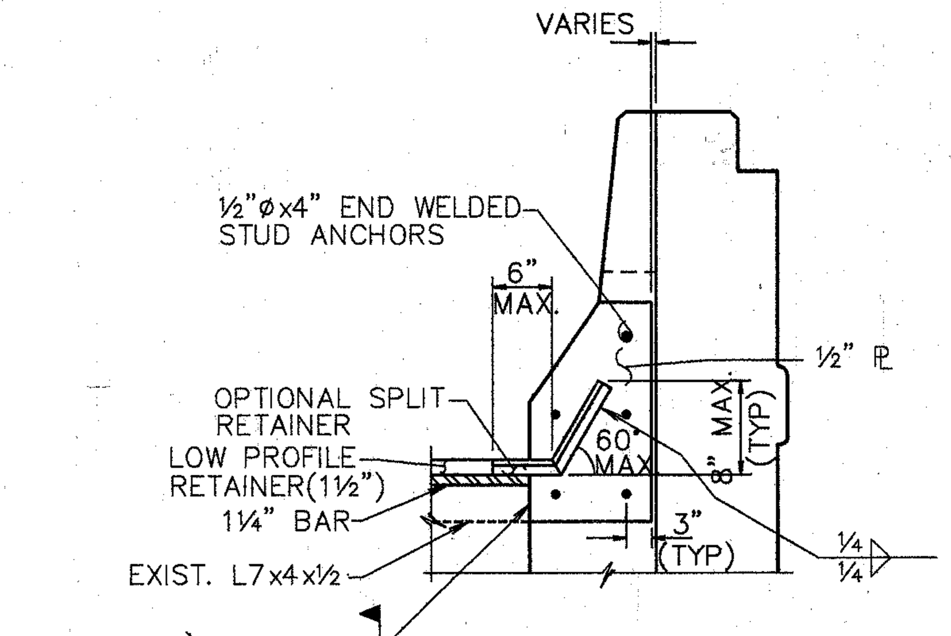
BRIDGE NO. HAM–71–1063 L
OVER CO. RD. No. 327

HAMILTON COUNTY

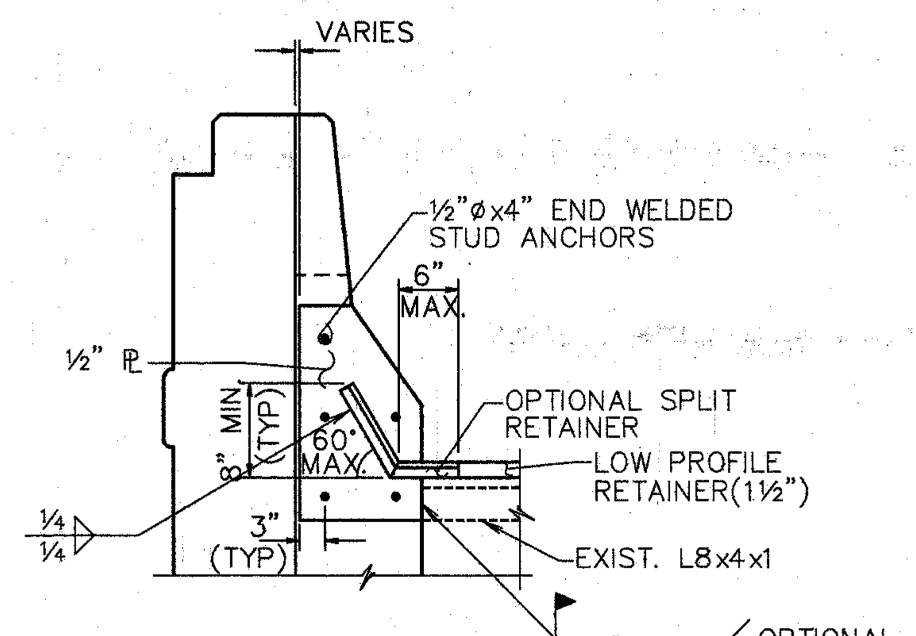
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 1/11/94	



PART PLAN @ ABUTMENTS



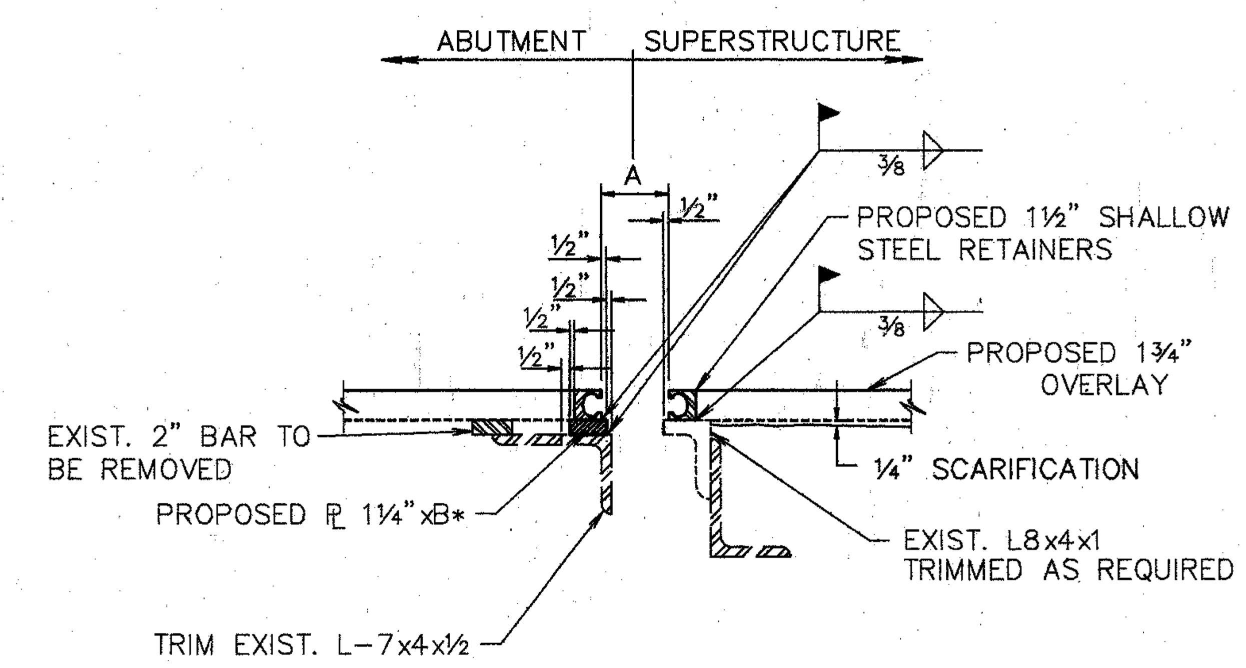
SECTION G–G



SECTION H–H

NOTES:

1. EXPANSION JT. DETAILS TO BE WORKED WITH STD. DWG. EXJ-4-87 SHTS. 1 thru 5.
2. WHEN PLATE IS RECESSED INTO ABUTMENT, CONCRETE BELOW PLATE SHALL BE SLOPED FROM BOTTOM OF THE PLATE TO THE END OF THE ABUTMENT TO DETER ACCUMULATION OF DEBIS.



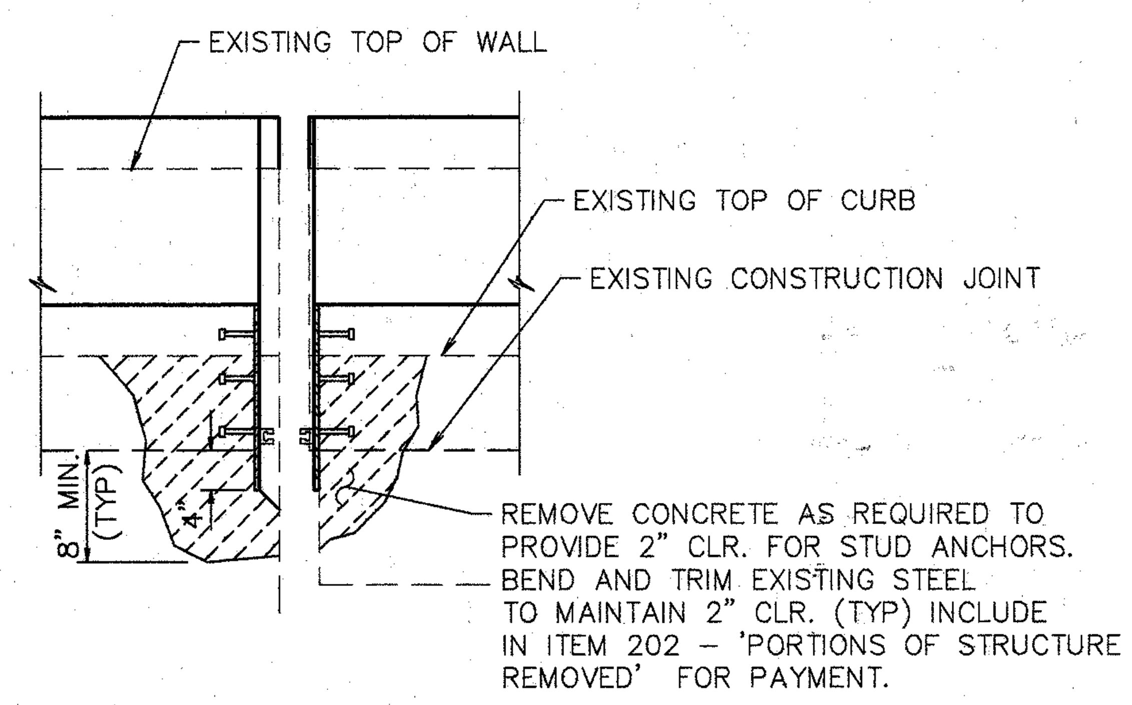
B* = RETAINER WIDTH PLUS 1"

SECTION J–J

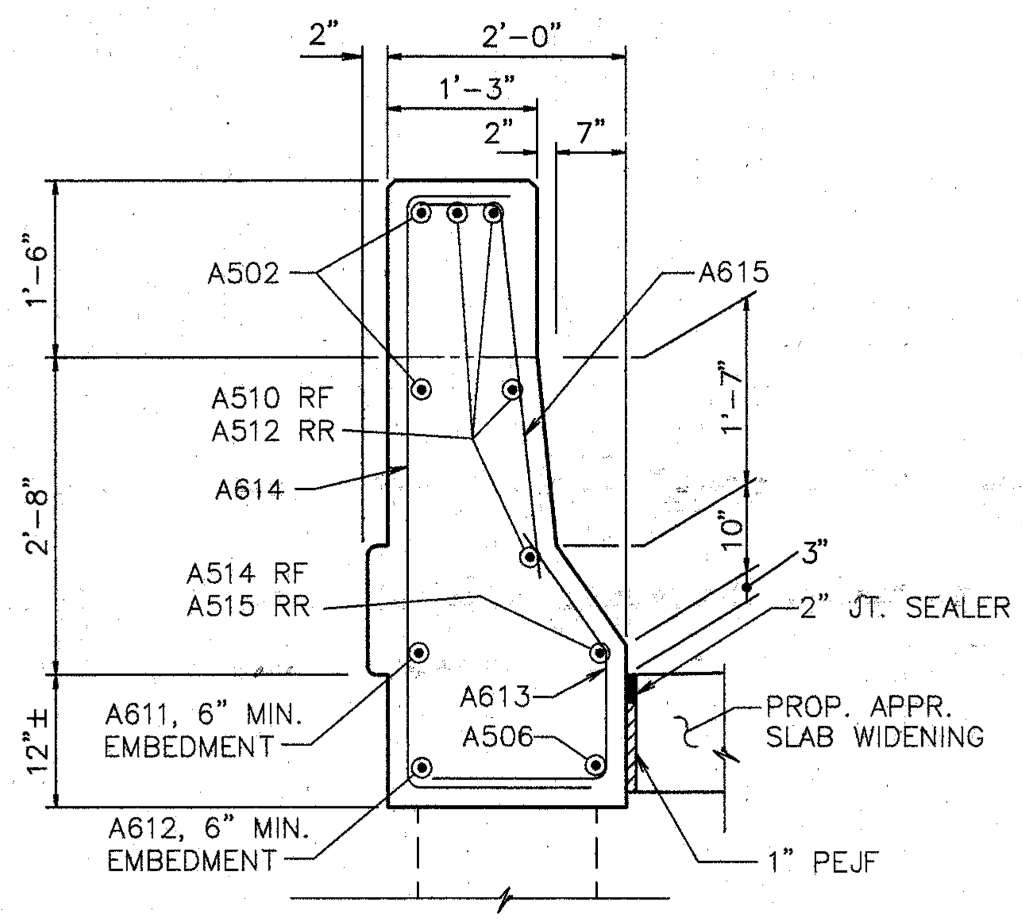
NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO MODIFYING EXPANSION JOINT.
2. THE PRICE BID FOR ITEM 516-'STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS, SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY OTHER INCIDENTIAL ITEMS, AS DETAILED. (REMOVAL OF CURB OR PARAPET AS SHOWN SHALL BE INCLUDED UNDER ITEM 202- 'PORTIONS OF STRUCTURE REMOVED').
3. FOR DETAILS NOT SHOWN REFER TO DWG. EXJ-4-87 SHTS. 3 AND 4.
4. STRIP SEAL TO BE INSTALLED IN ONE CONTINUOUS PIECE (NO OPEN JOINTS).
5. PROVIDE TEMPORARY SUPPORT FOR ABUTMENT END DAM DURING CONSTRUCTION. REMOVE TEMPORARY SUPPORT AS SOON AS CONCRETE HAS SET, PREFERABLY WITHIN TWO HOURS AFTER PLACING TO AVOID DAMAGE DUE TO EXPANSION AND CONTRACTION OF SUPERSTRUCTURE.

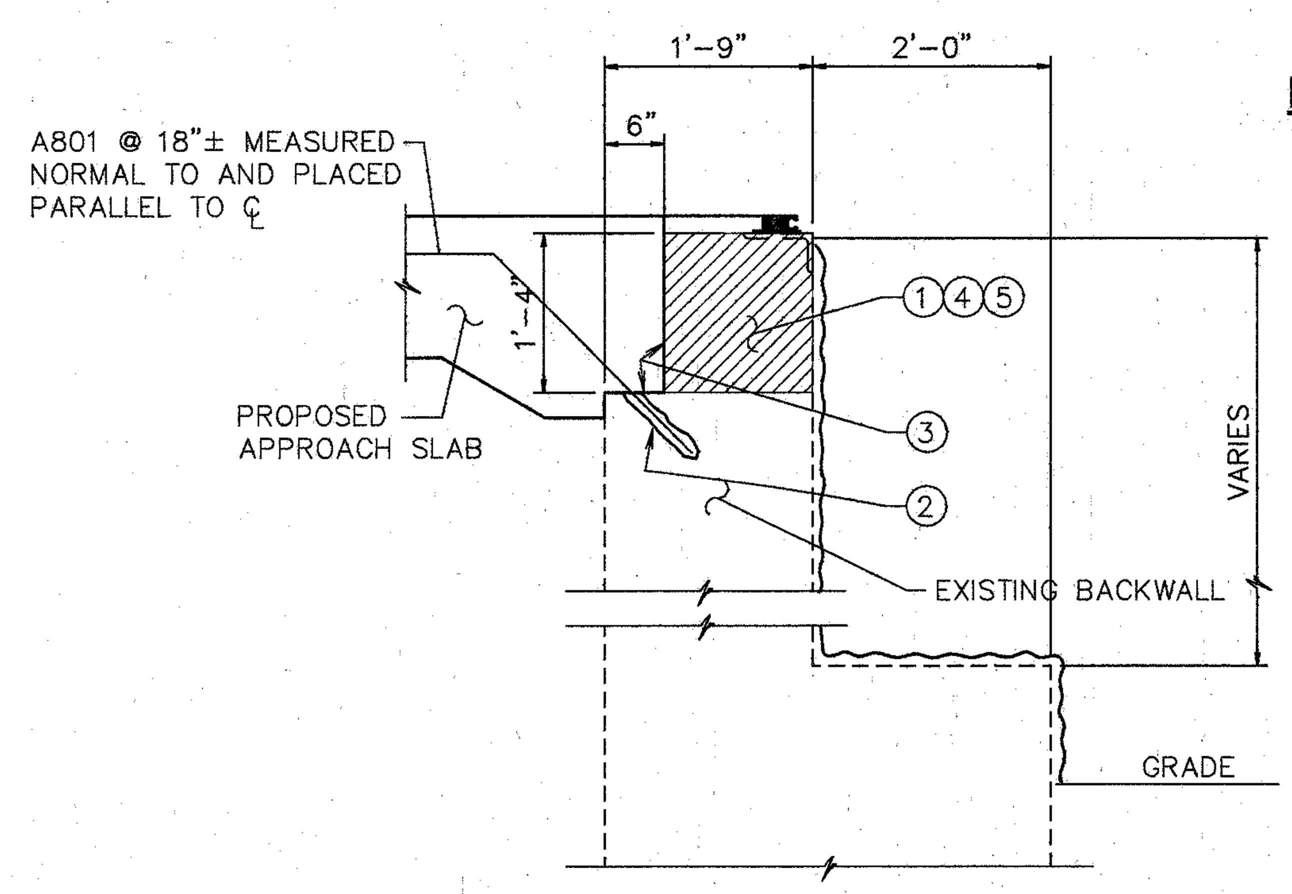
TEMPERATURE	DIM. 'A'	
	REAR	FORWARD
40° F	3⅛"	3⅛"
50° F	3"	3⅛"
60° F	2⅞"	3"
70° F	2¾"	3"
80° F	2⅝"	3"
90° F	2½"	2⅞"



SECTION K–K



SECTION M–M



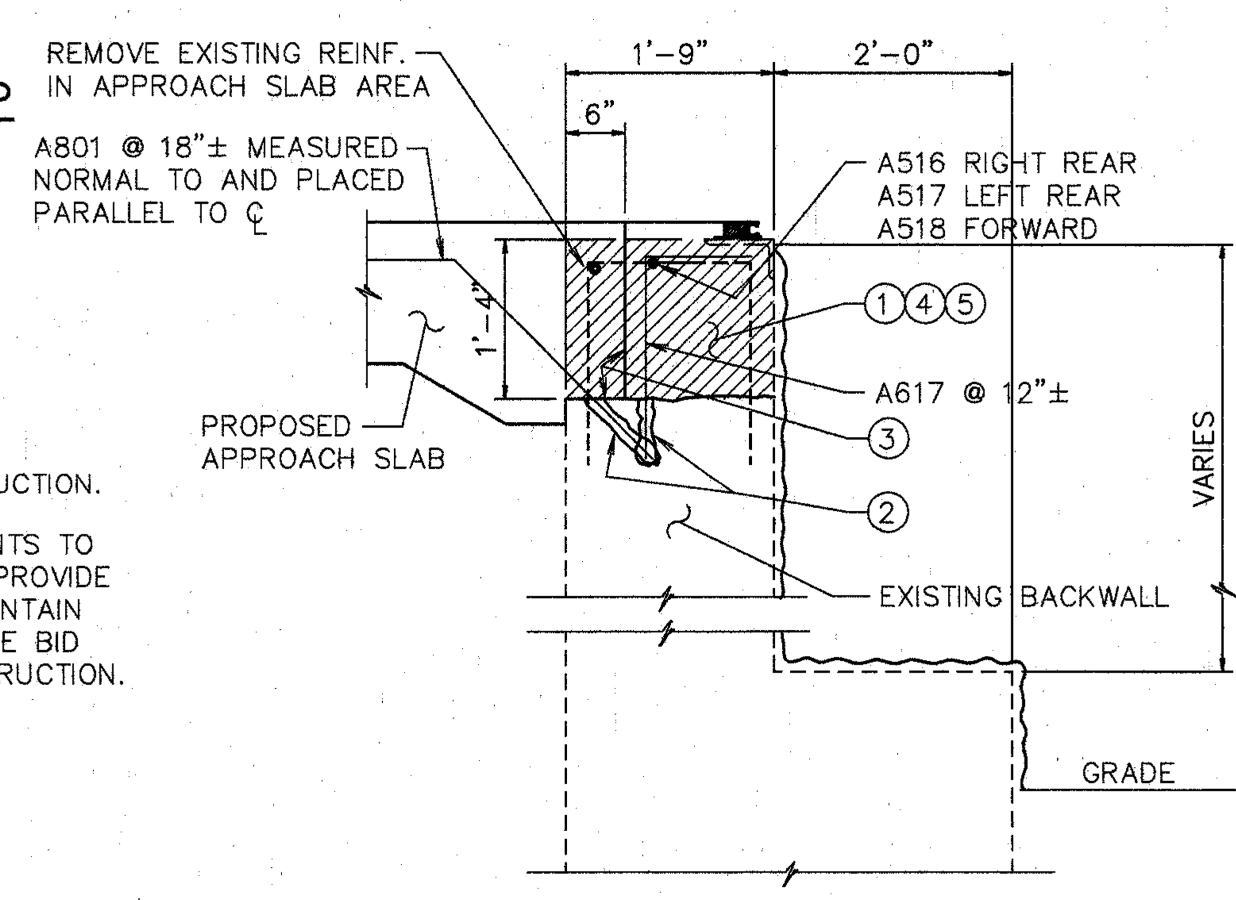
SECTION P–P

NOTES FOR SECTION L–L & P–P

1. EXISTING REINFORCING STEEL TO REMAIN ~ REINFORCING STEEL DAMAGED TO BE REPLACED AT CONTRACTORS EXPENSE.
2. 1' MIN. EMBEDMENT (SEE DOWEL HOLE GENERAL NOTE) ITEM 510.
3. TYPE 'A' WATERPROOFING (PAYMENT INCLUDED IN THE PRICE BID FOR APPROACH SLAB).
4. CLASS 'C' CONCRETE, ABUTMENT RECONSTRUCTION.
5. PROVIDE CONTRACTION AND EXPANSION JOINTS TO MATCH THOSE IN EXISTING BACKWALL AND PROVIDE CONSTRUCTION JOINTS AS REQUIRED TO MAINTAIN TRAFFIC. PAYMENT TO BE INCLUDED IN PRICE BID FOR ITEM 511 CLASS C CONCRETE RECONSTRUCTION.

EXISTING CONCRETE TO BE REMOVED INCLUDE IN ITEM 202 FOR PAYMENT.

SURFACE TO BE SEALED UNDER ITEM SPECIAL- 'SEALING OF CONCRETE SURFACE, EPOXY'.



SECTION L–L

SEE NOTES ON SHT. 2/4

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DAYTON, OHIO 45402-1226
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MISCELLANEOUS DETAILS

BRIDGE NO. HAM-71-1063 L
OVER CO. RD. No. 327

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 1/11/94	

Last Plot: JUN. 17, 1991 @ 7:55 AM G:\STR\18596-03\1063SHT3 Last Revision By: D.E.E. APR. 5, 1994 @ 7:55 AM

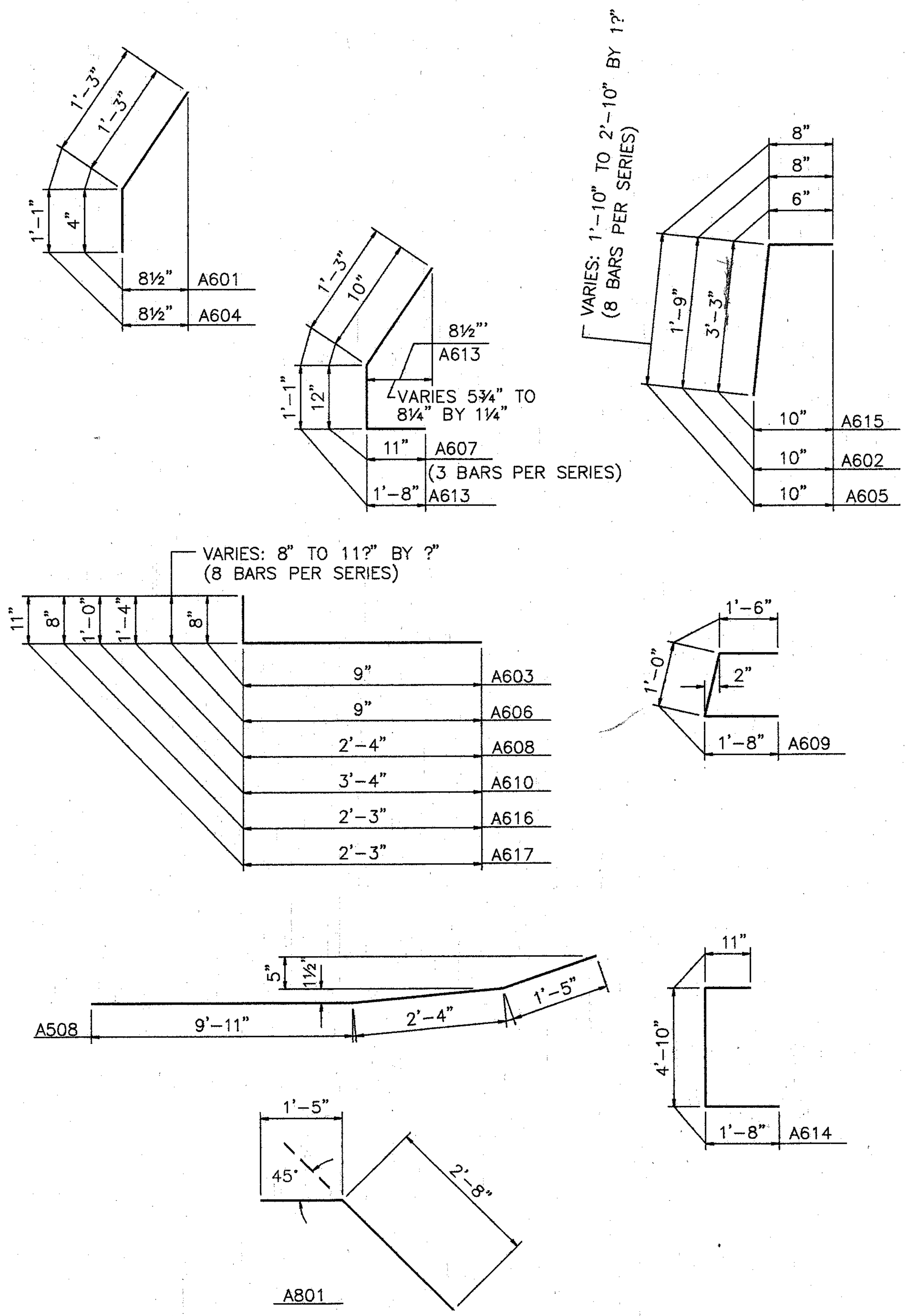
CALC. BY L.A.T.M. DATE 9-23-9? / CHK'D BY D.E.M. DATE 10-4-94	HAM-71-1.30/9.00	OHIO / F.H.W.A. REGION 5	397 / 401

REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
PARAPETS				
A501	STR.	36	30'-0"	1126
A502	STR.	8	5'-0"	42
A503	STR.	2	6'-8"	14
A504	STR.	89	14'-0"	1300
A505	STR.	55	13'-10"	794
A506	STR.	4	13'-8"	58
A507	BNT. †	2	13'-8"	29
A508	BNT.	4	13'-8"	57
A509	STR.	2	11'-0"	23
A510	STR.	5	20'-4"	106
A511	STR.	4	14'-1"	59
A512	STR.	5	21'-10"	114
A513	STR.	4	15'-2"	63
A514	STR.	1	19'-6"	20
A515	STR.	1	22'-6"	23
A516	STR.	1	16'-0"	17
A517	STR.	1	15'-2"	16
A518	STR.	2	14'-0"	29
A601	BNT.	467	1'-6"	1052
A602	BNT.	238	2'-5"	864
A603	BNT.	238	1'-3"	447
A604	BNT.	38	2'-3"	128
A605	BNT.	16	2'-6" TO 3'-6"	72
A606	BNT.	16	1'-3" TO 1'-7"	34
A607	BNT.	6	2'-6"	23
A608	BNT.	6	3'-6"	32
A609	BNT.	2	3'-10"	12
A610	BNT.	4	4'-2"	25
A611	STR.	4	1'-2"	7
A612	STR.	4	10"	5
A613	BNT.	2	3'-9"	11
A614	BNT.	2	7'-1"	21
A615	BNT.	253	3'-7"	1362
A616	BNT.	251	2'-9"	1037
A617	BNT.	51	3'-0"	230

BENT BAR DETAILS

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
PARAPETS				
A801	BNT.	74	4'-0"	790
REPLACEMENT STEEL				300
			TOTAL	10342



† BEND IN FIELD AS REQUIRED.

ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	L.S.	PORTIONS OF STRUCTURE REMOVED
202	23501	1300	S.Y.	WEARING COURSE REMOVED (ASPHALT), AS PER PLAN
509	15820	10342	LBS.	EPOXY COATED REINFORCING STEEL, GRADE 60
510	12201	125	L.F.	DOWEL HOLES AS PER PLAN
511	34450	13	C.Y.	CLASS S CONCRETE, MISC.: ABUTMENT PARAPETS
511	45700	10	C.Y.	CLASS C CONCRETE, ABUTMENT RECONSTRUCTION
SPECIAL	51267500	1056	S.Y.	SEALING OF CONCRETE SURFACE *
SPECIAL	51267502	193	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
513	21000	13	EACH	TRIMMING OF BEAM END
SPECIAL	51400050	24,625	S.F.	SURFACE PREPARATION OF EXIST. STEEL, SYSTEM OZEU *
SPECIAL	51400056	24,625	S.F.	FIELD PAINTING OF EXIST STEEL, PRIME COAT, SYSTEM OZEU *
SPECIAL	51400060	24,625	S.F.	FIELD PAINTING OF EXIST STEEL, INTERMEDIATE COAT, SYSTEM OZEU *
SPECIAL	51400066	24,625	S.F.	FIELD PAINTING OF EXIST STEEL, FINISH COAT, SYSTEM OZEU *
SPECIAL	51400504	100	MAN HOUR	GRINDING FINS, TEARS, AND SLIVERS *
516	11210	144	L.F.	STRUCTURAL EXP. JT., INCLUDING ELASTOMERIC STRIP SEAL
516	45304	14	EACH	REFURBISH BEARING DEVICE
517	76201	257	L.F.	RAILING FACED, AS PER PLAN (32" HIGH)
517	76201	260	L.F.	RAILING FACED, AS PER PLAN (50" HIGH)
518	12700	12	EACH	SCUPPER, VERTICAL EXTENSION
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
601	20001	28 ✓	S.Y.	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN
519	11100	7	S.F.	PATCHING CONCRETE STRUCTURE
845	40210	1557	S.Y.	LATEX MODIFIED CONCRETE MISC. OVERLAY (1¾" THICK) ON EXISTING DECK
845	11000	16	C.Y.	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)
845	30000	1	C.Y.	FULL DEPTH REPAIR

* SEE PROPOSAL NOTE

PROPOSED WORK

1. MODIFY PARAPETS ON THE SUPERSTRUCTURE & ABUTMENTS. SEAL PARAPETS AS SHOWN ON PLANS. (INSTALL PLATES FOR STRIP SEAL EXP. JT.).
2. SCARIFY EXISTING DECK ¼", AND REMOVE DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER.
3. REFURBISH BEARINGS.
4. PLACE 1¾" THICK LATEX MODIFIED CONCRETE ON DECK.
5. SEAL PIERS & BACKWALL.
6. RECONSTRUCT ABUTMENT BACKWALLS ABOVE APPROACH SLAB SEAT.
7. SEAL EXPANSION JOINT WITH STRIP SEAL.
8. PLACE GUARDRAIL AS SHOWN ON ROADWAY PLANS.
9. TRIM BEAM ENDS TO 2" CLEARANCE (OR AS CLOSE TO 2" AS POSSIBLE).
10. EXTEND SCUPPERS.
11. PAINT EXISTING STEEL STRUCTURE WITH SYSTEM OZEU.
12. REPAIR SLOPE PROTECTION.
13. ONE LANE OF TRAFFIC SHALL BE MAINTAINED ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTAINANCE OF TRAFFIC PLANS.
14. OTHER WORK AS DESCRIBED IN THESE PLANS.

WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660

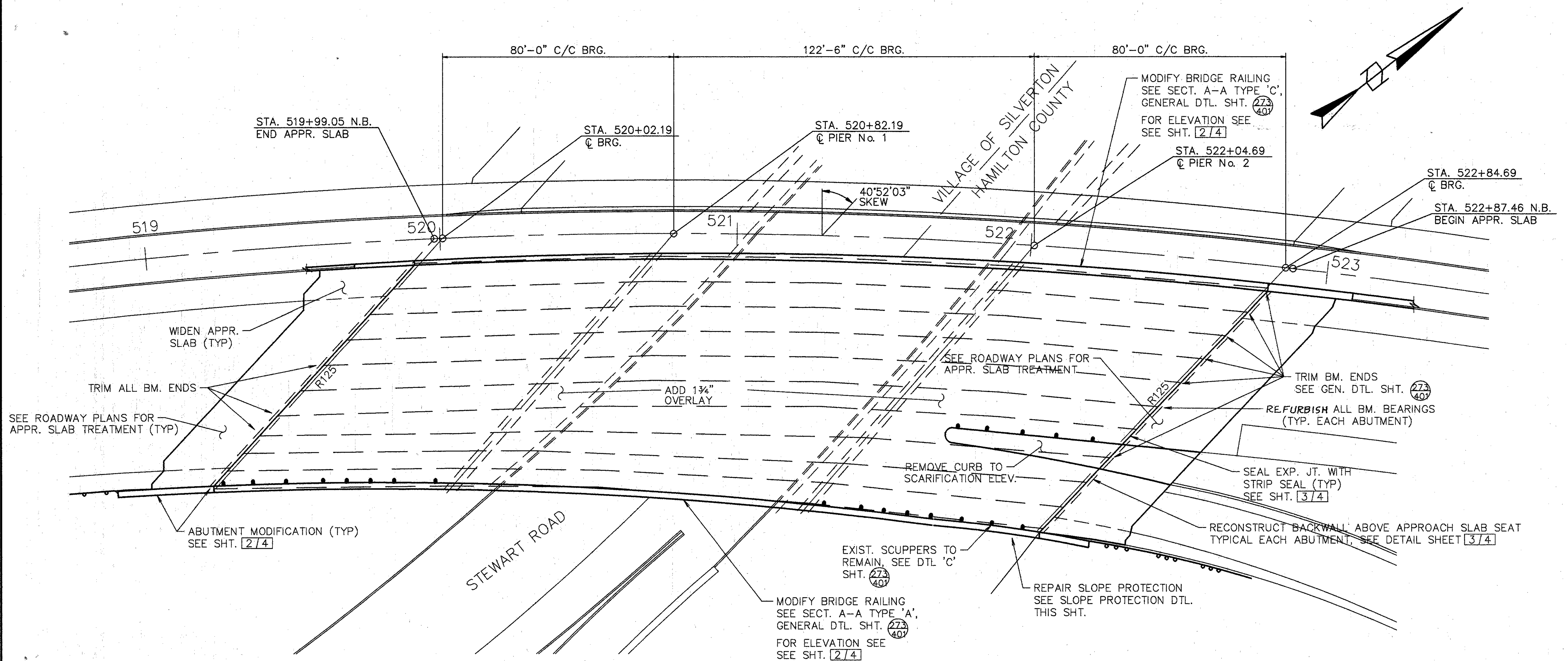
QUANTITIES AND GENERAL NOTES

BRIDGE NO. HAM-71-1063 L
OVER CO. RD. No. 327

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	1/11/94	

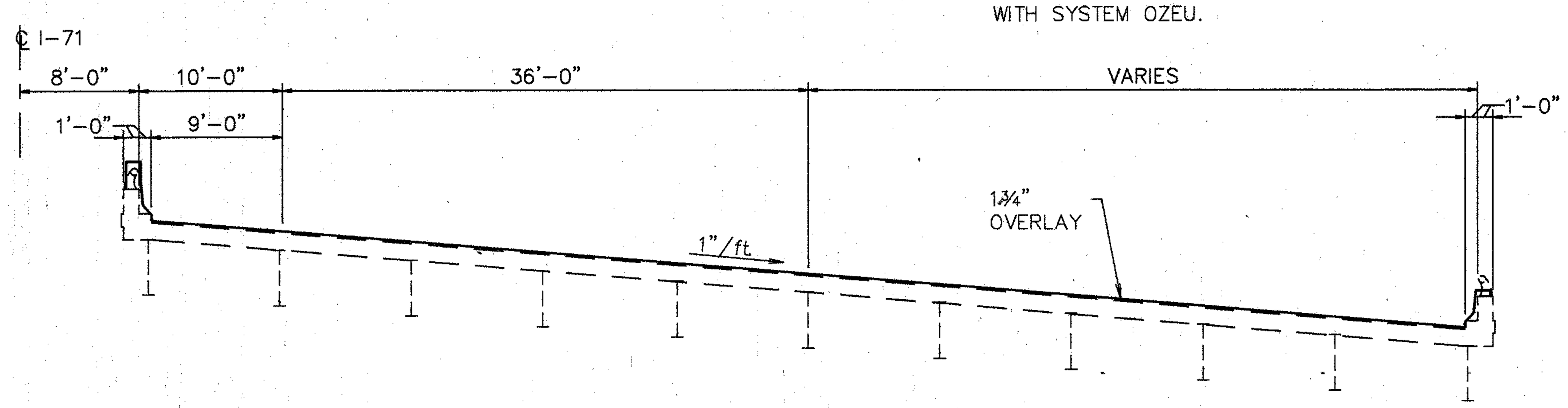
Last Plot: JUN. 17, 1991 @ 7:57 AM
G:\STR\16596-03\1063SHT4 Last Revision By: RACH MAY 17, 1994 @ 2:07 PM



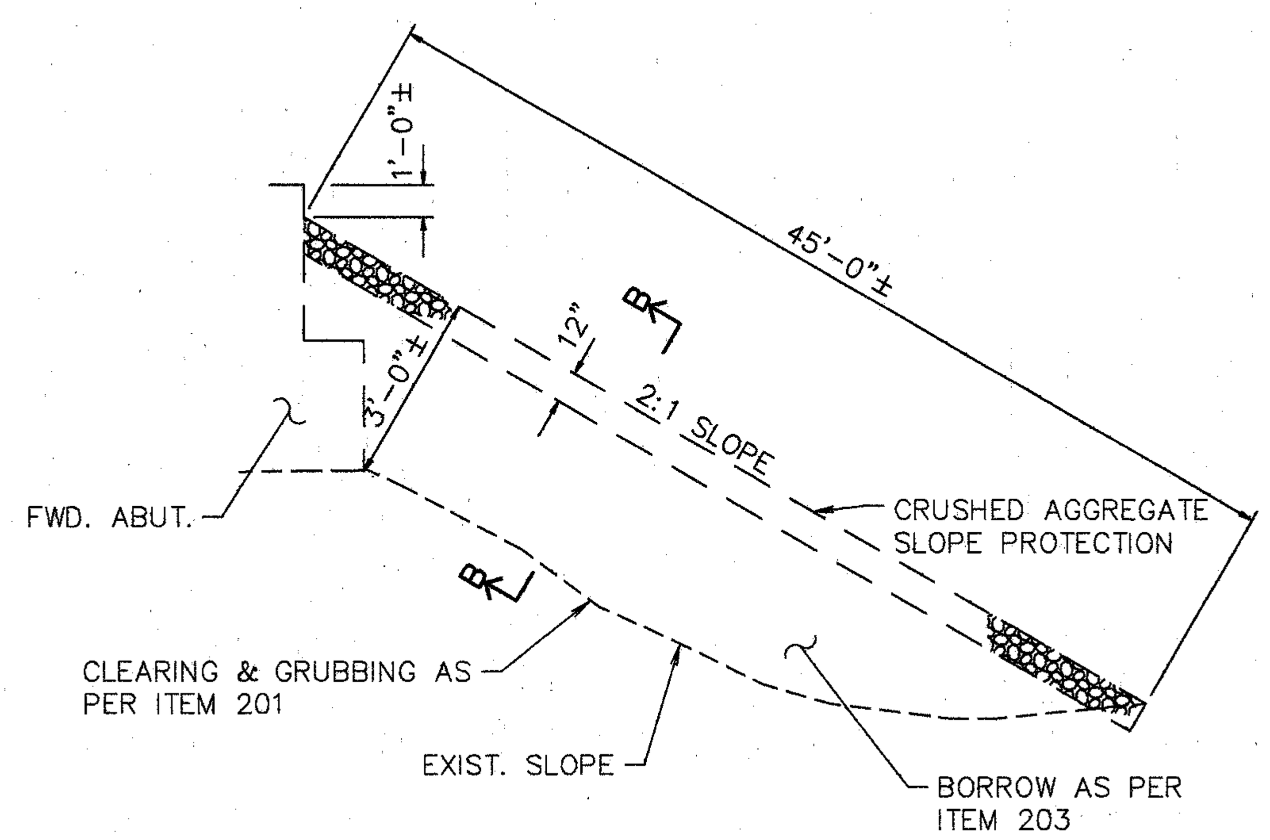
NOTES:

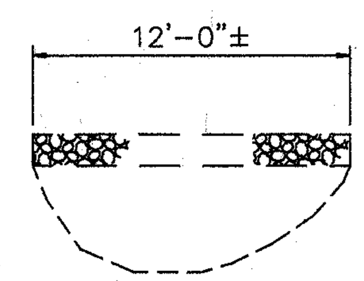
- EXTEND ALL SCUPPERS. FOR DTL., SEE GEN. DTL. SHT. 273/401
- SEAL PARAPETS, PIERS, & BACKWALLS.
- PAINT EXIST. STEEL STRUCTURE WITH SYSTEM OZEU.

ROCKER OR BOLSTER SIZE	JACK CAPACITY REQ'D. (MIN)
R125	100 TON



TYP. BRIDGE SECTION





SECTION B-B

SLOPE PROTECTION REPAIR

SLOPE PROTECTION REPAIR SHALL BE PAID FOR AS ITEM 601, CRUSHED AGGREGATE SLOPE PROTECTION AS PER PLAN. THE PRICE BID PER SQ. YARD SHALL INCLUDE CLEARING & GRUBBING, AND BORROW AS REQUIRED TO CONFORM TO THE SLOPE AS SHOWN.

EXISTING STRUCTURE

TYPE: CONTINUOUS STEEL GIRDER WITH REINFORCED CONCRETE DECK & SUBSTRUCTURE
SPANS: 80'-0", 122'-6", 80'-0"
ROADWAY: VARIES F-F PARAPET
SKEW: 40°-52'-03" LT. FORWARD
LOADING FREQUENCY: C.F.=2000 (57) ADEQUATE FOR A.A.S.H.T.O. ALTERNATE LOADING
WEARING SURFACE: 1" MONOLITHIC CONCRETE
APPROACH SLABS: AS-1-54 (25'-0" LONG)
ALIGNMENT: 3° HORIZONTAL CURVE TO THE RIGHT
SUPERELEVATION: 0.0833'/FT.
CURB: 1'-0" EACH SIDE

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1/4

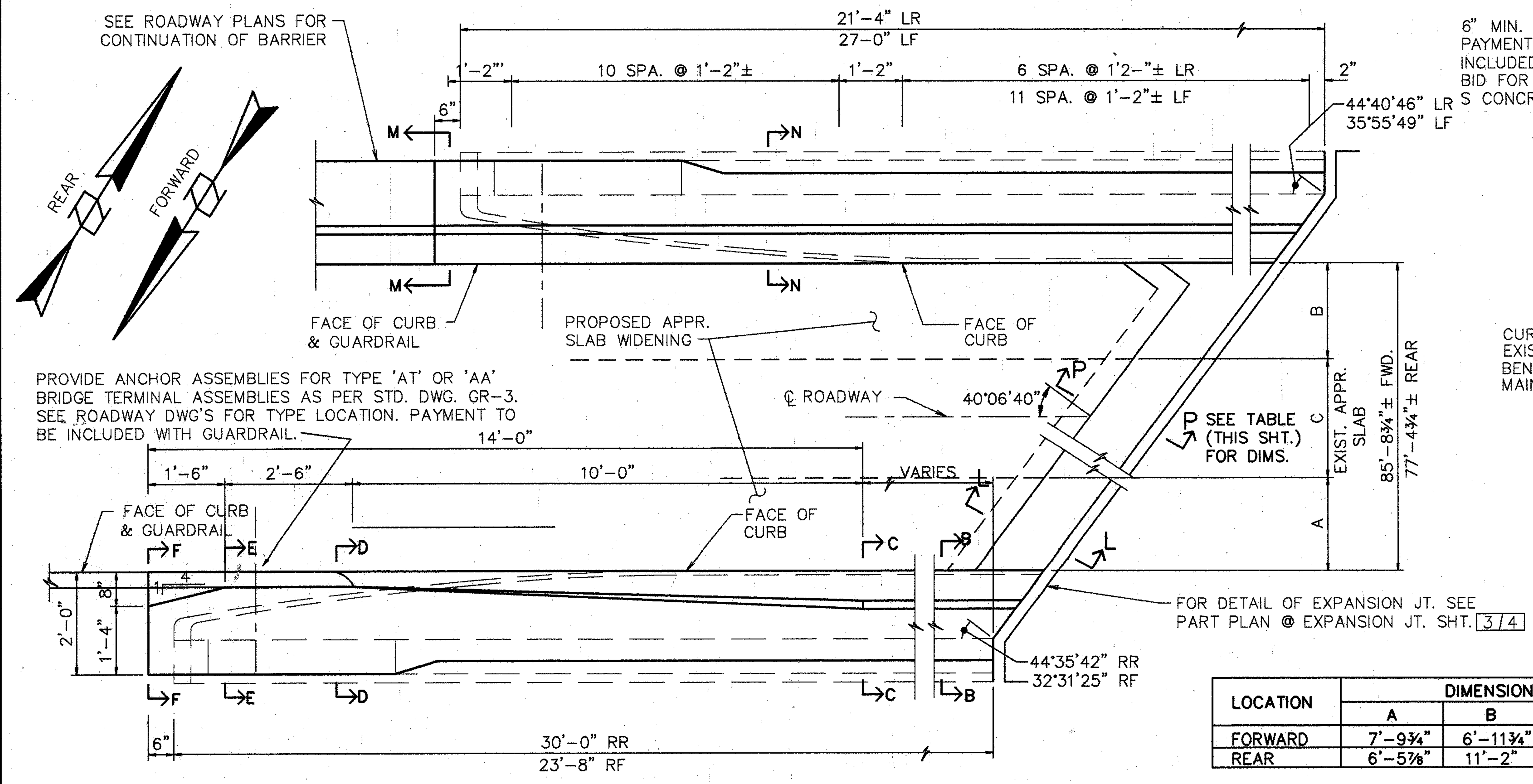
GENERAL PLAN

BRIDGE NO. HAM-71-1063 R
OVER CO. RD. NO.327

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M. 11/11/94	

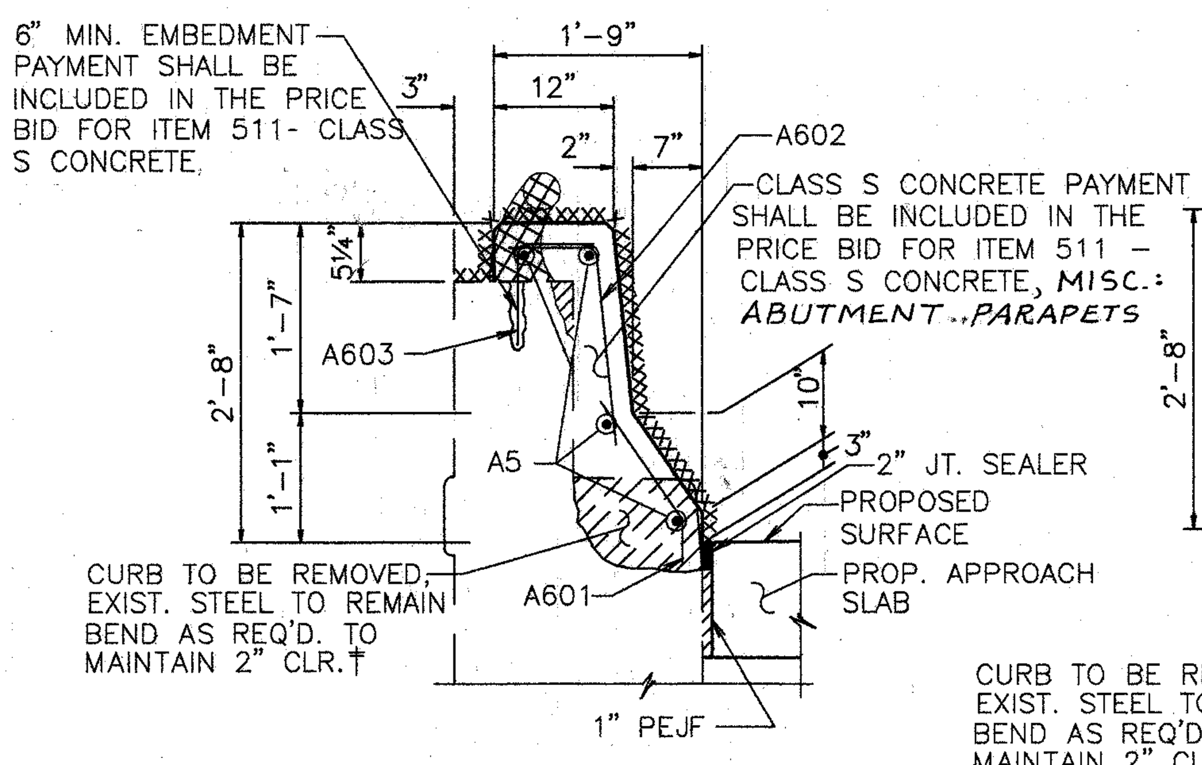
Last Plot: MAY 16, 1991 @ 7:52 AM Last Revision By: RADH MAY 17, 1994 @ 1:59 PM



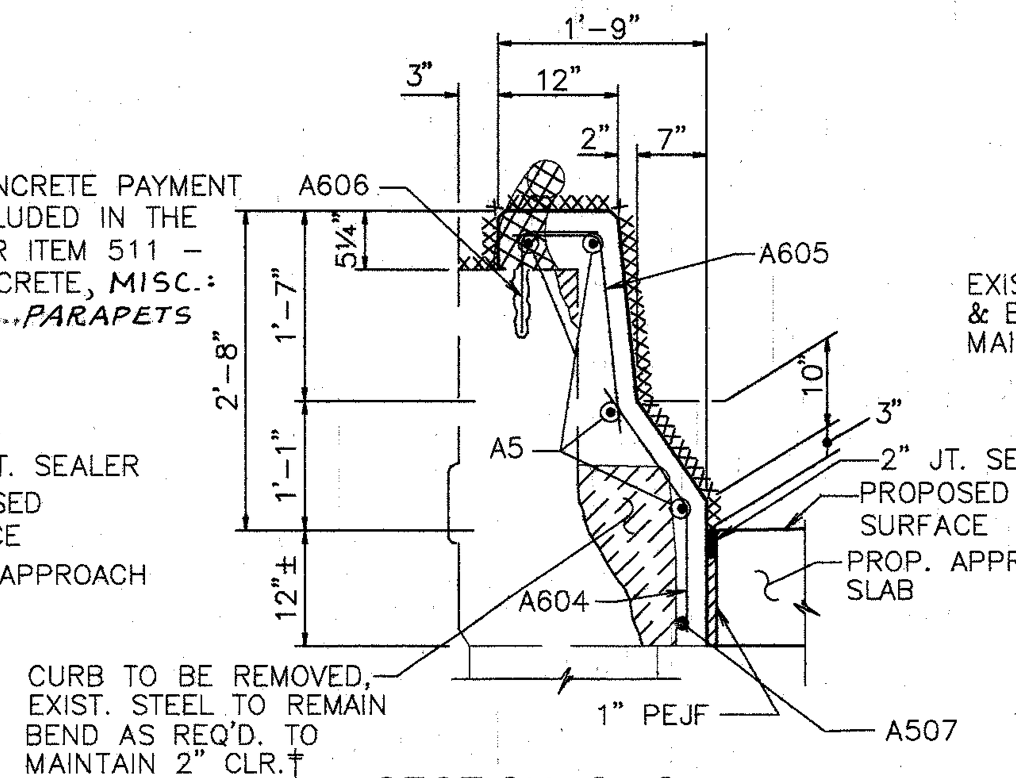
PLAN – ABUTMENT MODIFICATION

REAR SHOWN, FORWARD OPPOSITE HAND W/SAME SKEW (SEE GENERAL PLAN FOR WINGWALL ORIENTATION FOR FORWARD ABUTMENT)

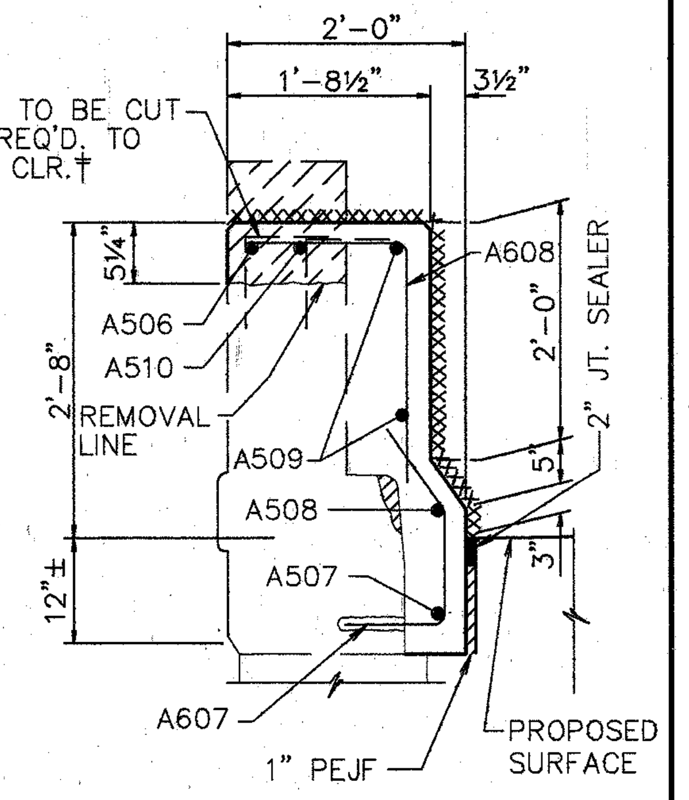
LOCATION	DIMENSIONS A	DIMENSIONS B	DIMENSIONS C
FORWARD	7'-9¾"	6'-11¾"	70'-11¼"
REAR	6'-5⅞"	11'-2"	59'-8⅞"



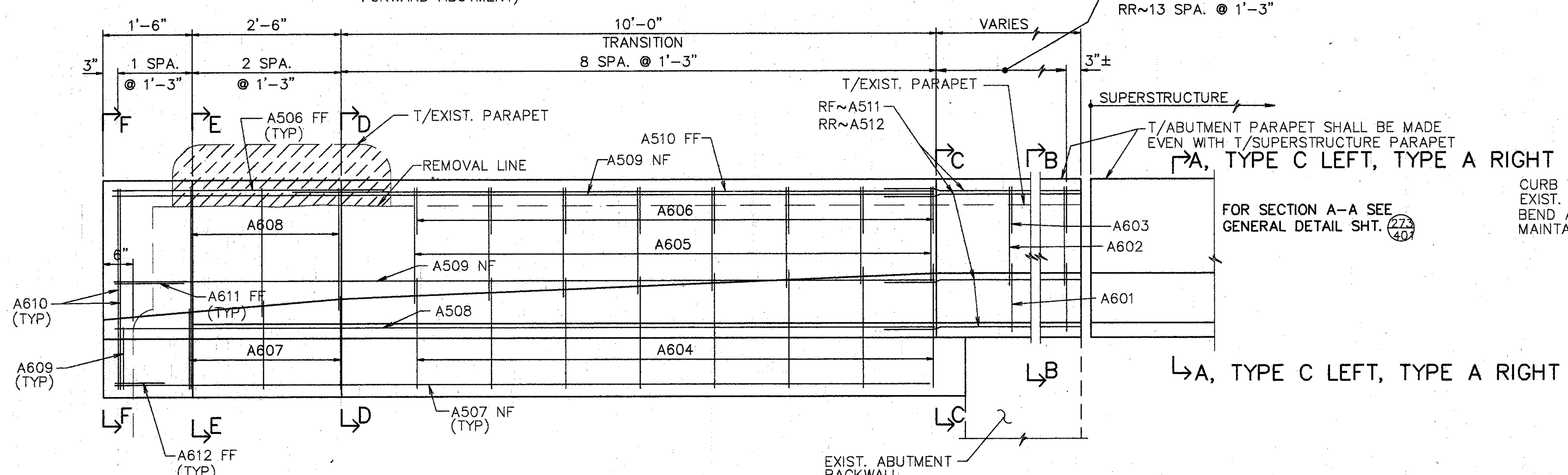
SECTION B–B



SECTION C–C

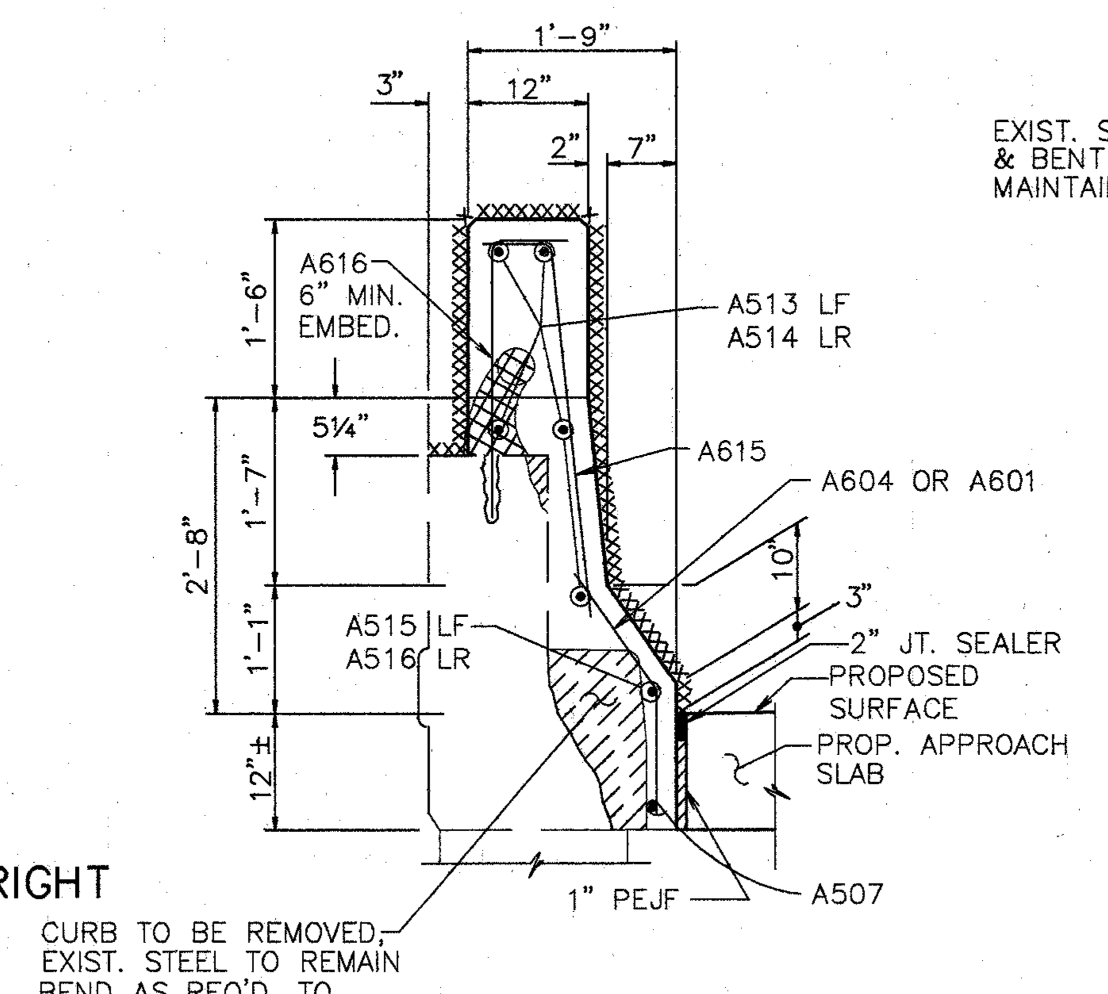


SECTION D–D

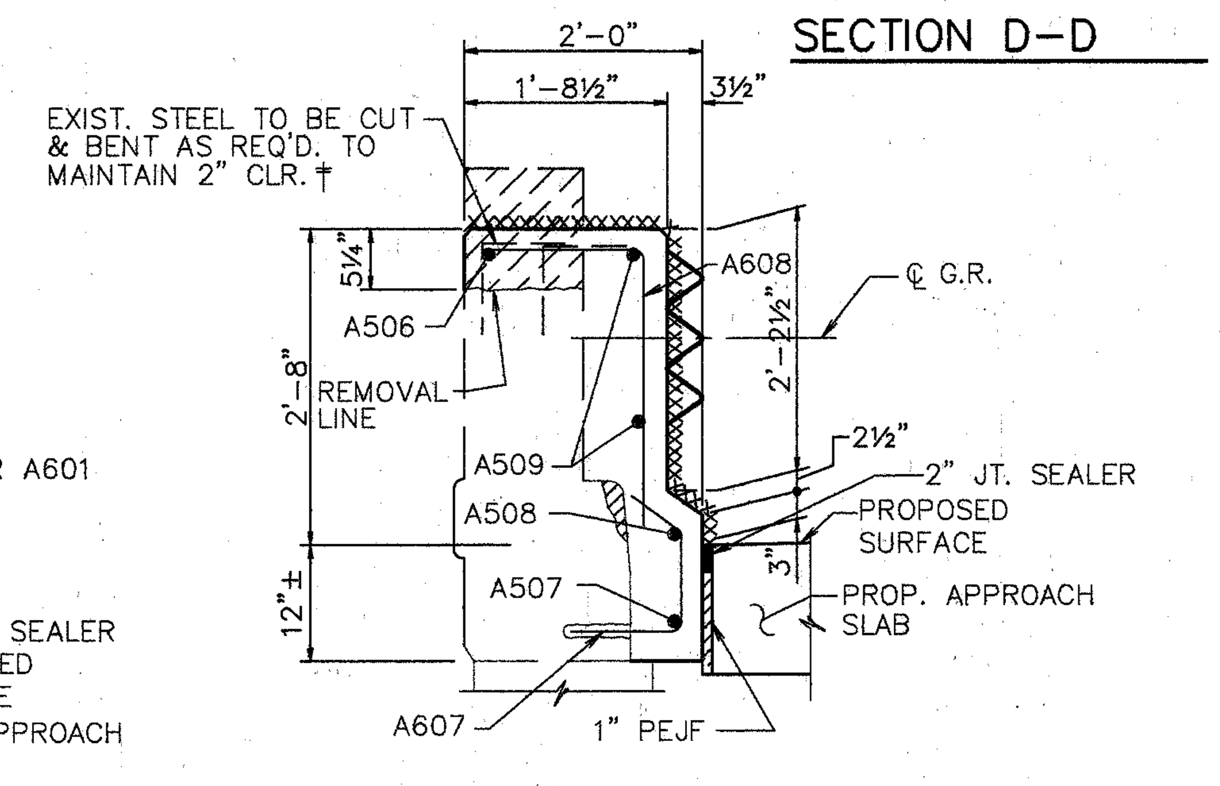


ELEVATION – RIGHT WALL

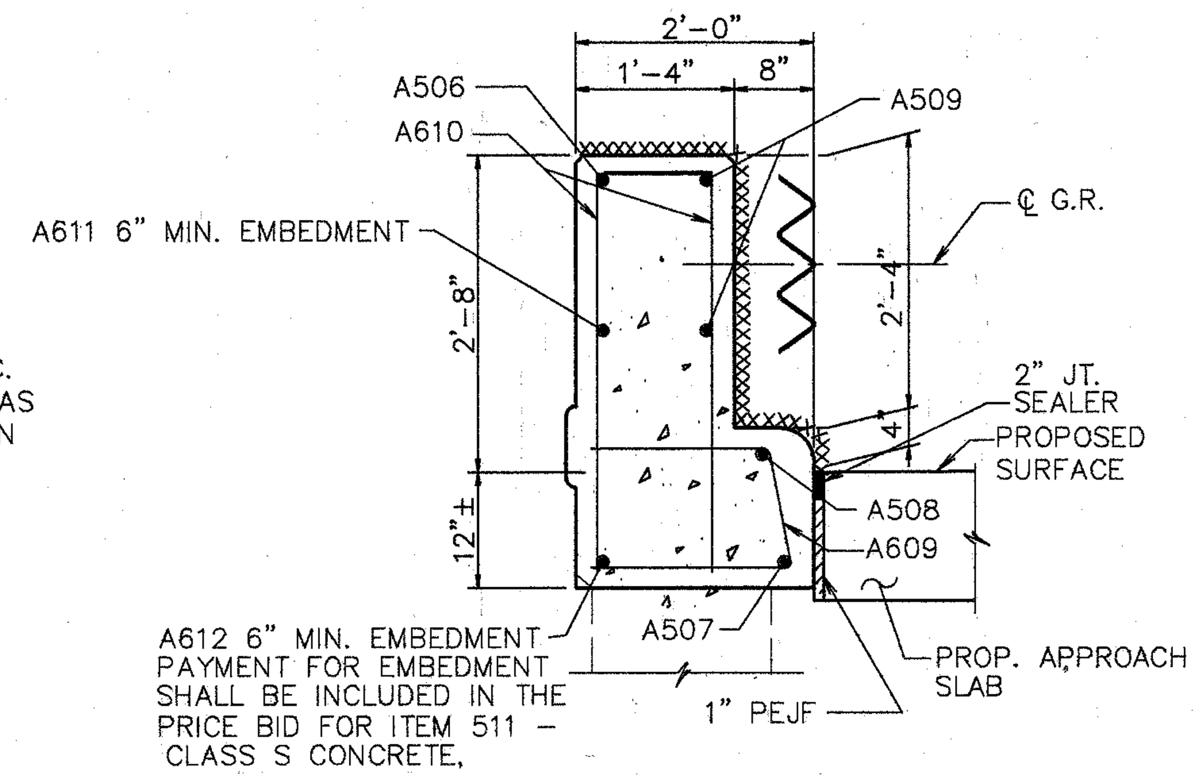
(FORWARD SHOWN, REAR OPPOSITE)



SECTION N–N



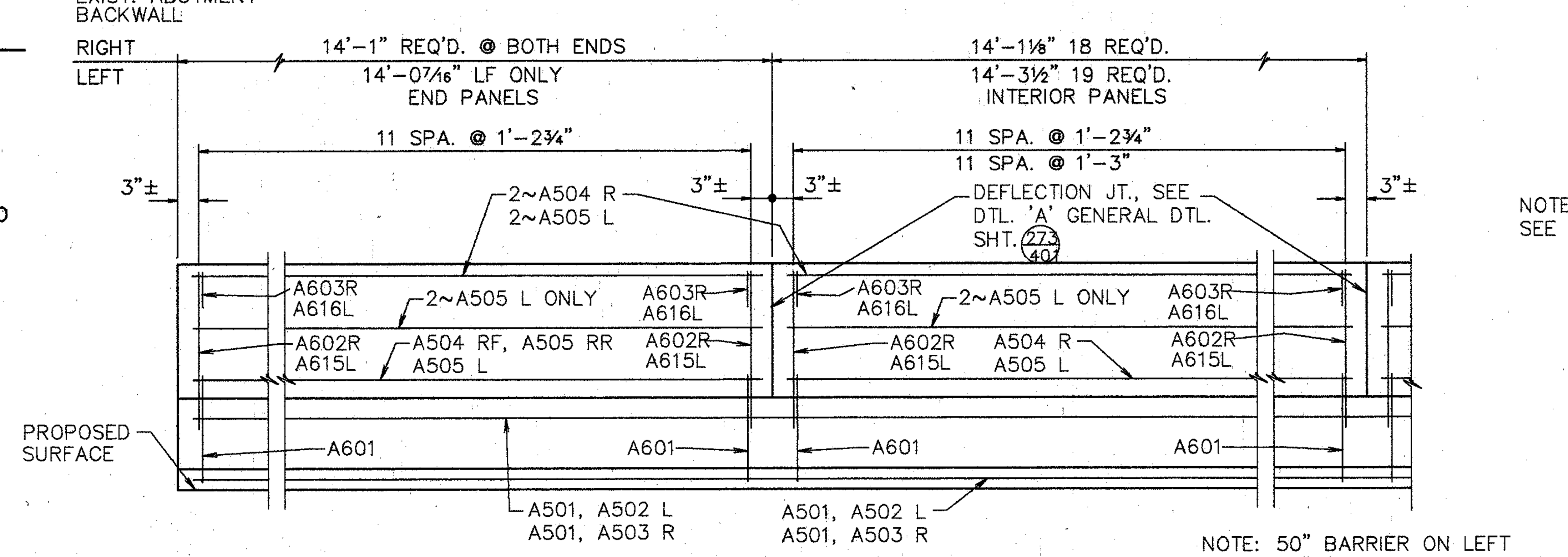
SECTION E–E



SECTION F–F

† BARS SHALL REMAIN. CONTRACTOR SHALL EXERCISE CAUTION TO ENSURE THAT THESE BARS ARE NOT DAMAGED DURING THE CONC. REMOVAL OPERATION. ANY BARS DAMAGED AS A RESULT OF THE CONTRACTOR'S OPERATION SHALL BE REPLACED OR REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. METHOD OF REPAIR OR REPLACEMENT WILL BE AT THE DISCRETION OF THE DIRECTOR.

NOTE: FOR SECTIONS NOT SHOWN SEE SHEET 3/4



ELEVATION SUPERSTRUCTURE PARAPET

NOTE: 50" BARRIER ON LEFT
32" BARRIER ON RIGHT

////// EXIST. CURB & PARAPET TO BE REMOVED UNDER ITEM 202-'PORTIONS OF STRUCTURES REMOVED'.

XXXXX EXIST. RAILING & POSTS TO BE REMOVED & STACKED NEATLY ALONG THE RIGHT-OF-WAY FOR DISPOSAL BY THE CONTRACTOR. ALL WORK SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 202-'PORTIONS OF STRUCTURE REMOVED'.

xxxxxx SURFACES TO BE SEALED UNDER ITEM SPECIAL-'SEALING OF CONCRETE SURFACES.

NOTES:

L DENOTES LEFT SIDE
R DENOTES RIGHT SIDE
RF DENOTES RIGHT FORWARD
LF DENOTES LEFT FORWARD
RR DENOTES RIGHT REAR
LR DENOTES LEFT REAR
NF DENOTES NEAR FACE
FF DENOTES FAR FACE

NOTES:

1. TYPE 'A' WATERPROOFING AT THE BRIDGE LIMIT END OF THE APPROACH SLAB (AS PER STD. DWG. AS-1-81) SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 611 APPROACH SLAB.

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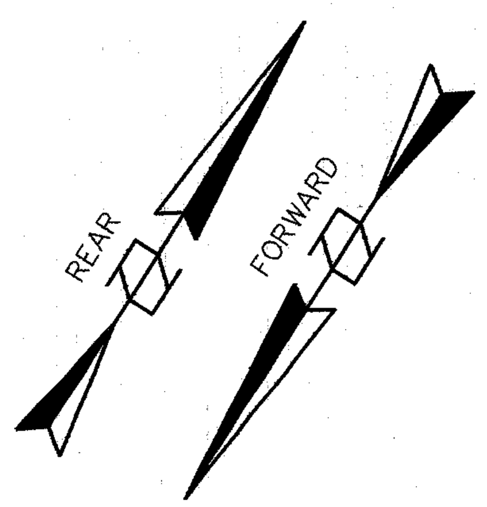
2/4

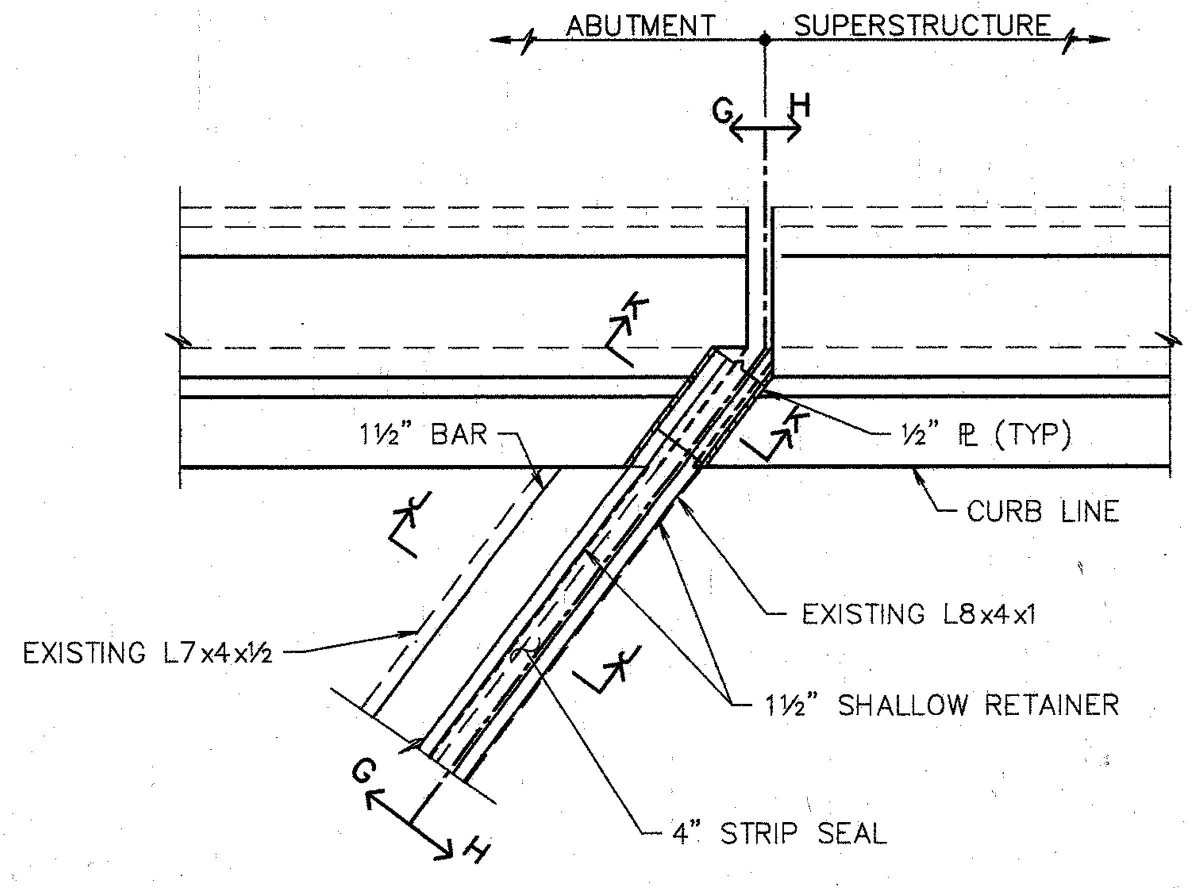
PARAPET SECTIONS AND DETAILS

BRIDGE NO. HAM-71-1063 R
OVER CO. RD. No. 327

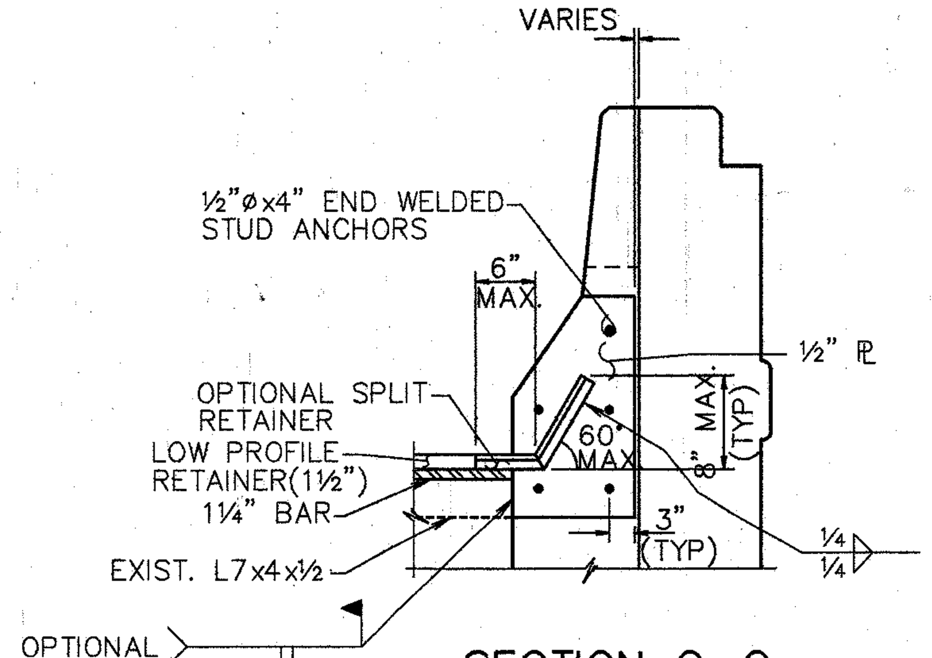
HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	1/11/94	

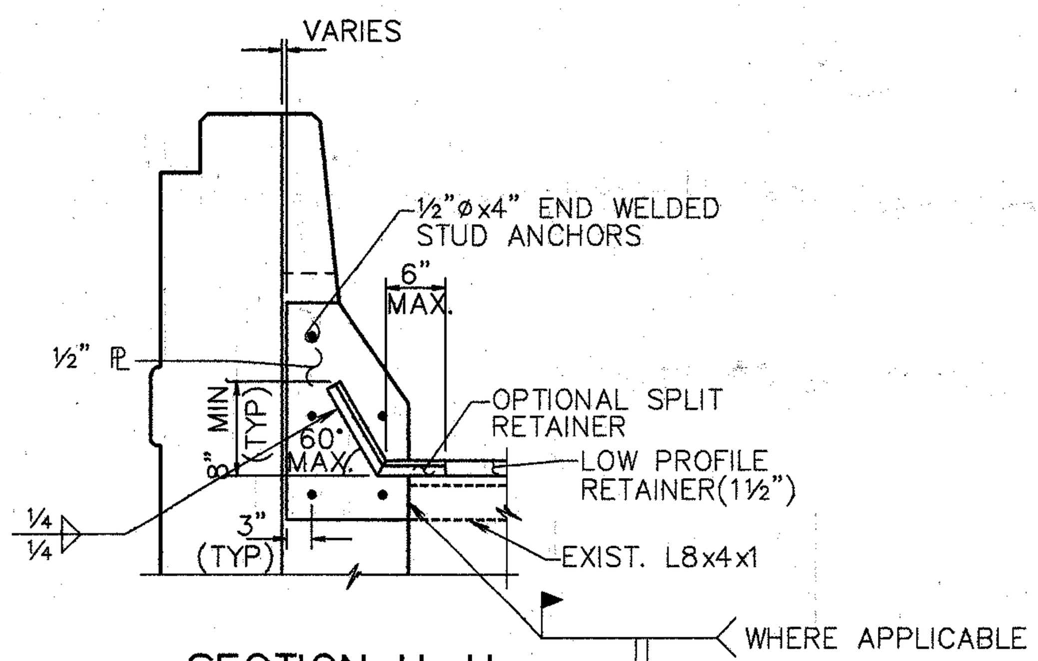




PART PLAN @ ABUTMENTS



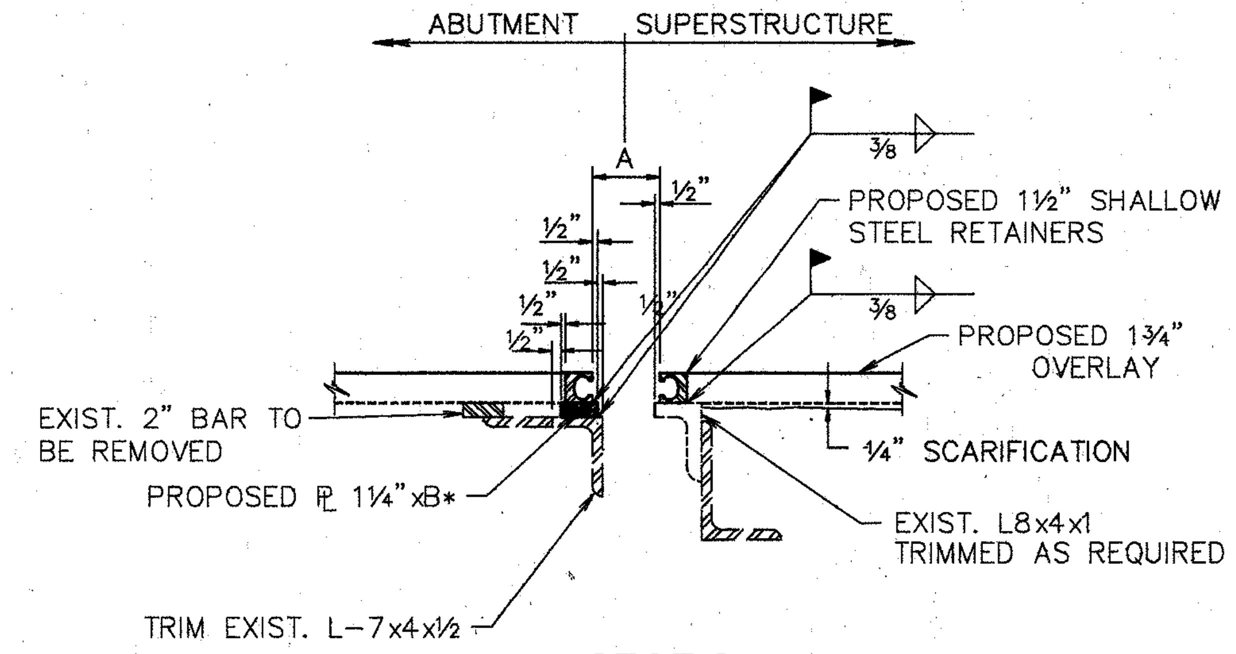
SECTION G-G



SECTION H-H

NOTES:

1. EXPANSION JT. DETAILS TO BE WORKED WITH STD. DWG. EXJ-4-87 SHTS. 1 thru 5.
2. WHEN PLATE IS RECESSED INTO ABUTMENT, CONCRETE BELOW PLATE SHALL BE SLOPED FROM BOTTOM OF THE PLATE TO THE END OF THE ABUTMENT TO DETER ACCUMULATION OF DEBIS.



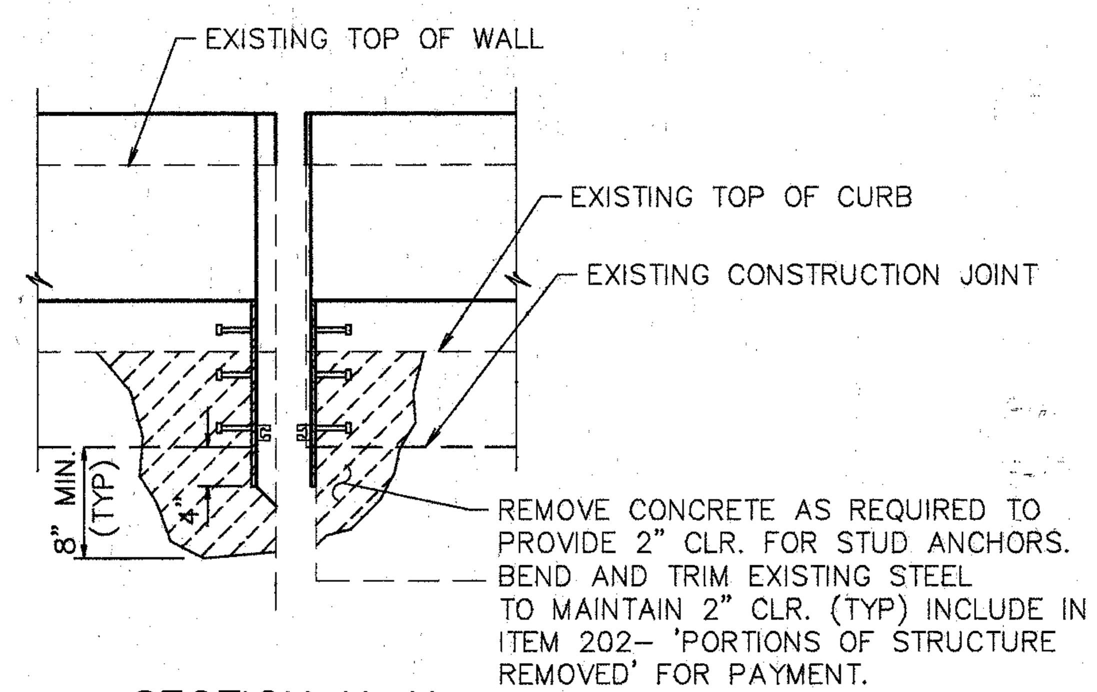
SECTION J-J

B* = RETAINER WIDTH PLUS 1"

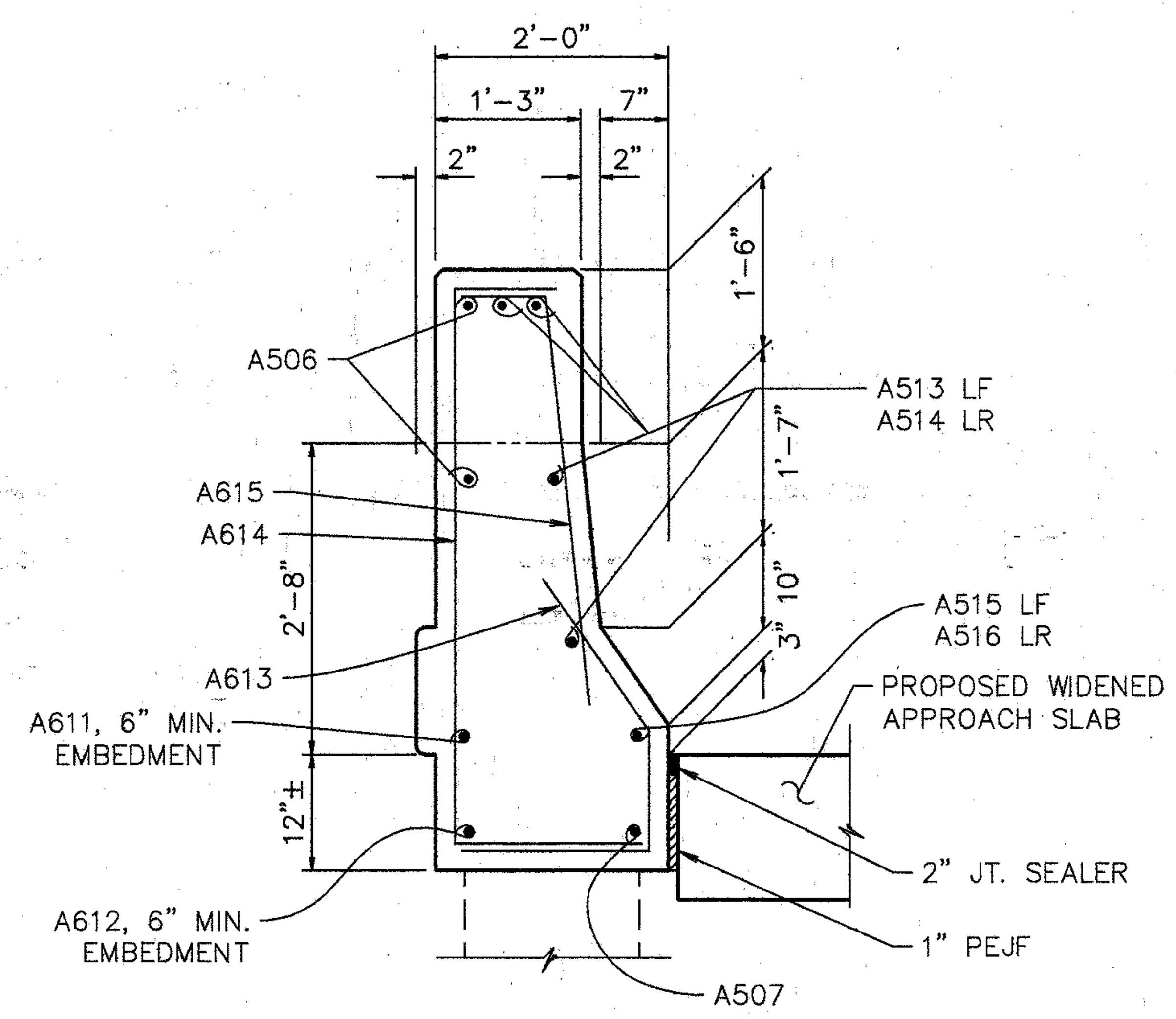
NOTES:

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO MODIFYING EXPANSION JOINT.
2. THE PRICE BID FOR ITEM 516-'STRUCTURAL EXPANSION JOINTS, INCLUDING ELASTOMERIC STRIP SEALS, SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, AND ANY OTHER INCIDENTIAL ITEMS, AS DETAILED. (REMOVAL OF CURB OR PARAPET AS SHOWN SHALL BE INCLUDED UNDER ITEM 202- 'PORTIONS OF STRUCTURE REMOVED').
3. FOR DETAILS NOT SHOWN REFER TO DWG. EXJ-4-87 SHTS. 3 AND 4.
4. STRIP SEAL TO BE INSTALLED IN ONE CONTINUOUS PIECE (NO OPEN JOINTS).
5. PROVIDE TEMPORARY SUPPORT FOR ABUTMENT END DAM DURING CONSTRUCTION. REMOVE TEMPORARY SUPPORT AS SOON AS CONCRETE HAS SET, PREFERABLY WITHIN TWO HOURS AFTER PLACING TO AVOID DAMAGE DUE TO EXPANSION AND CONTRACTION OF SUPERSTRUCTURE.

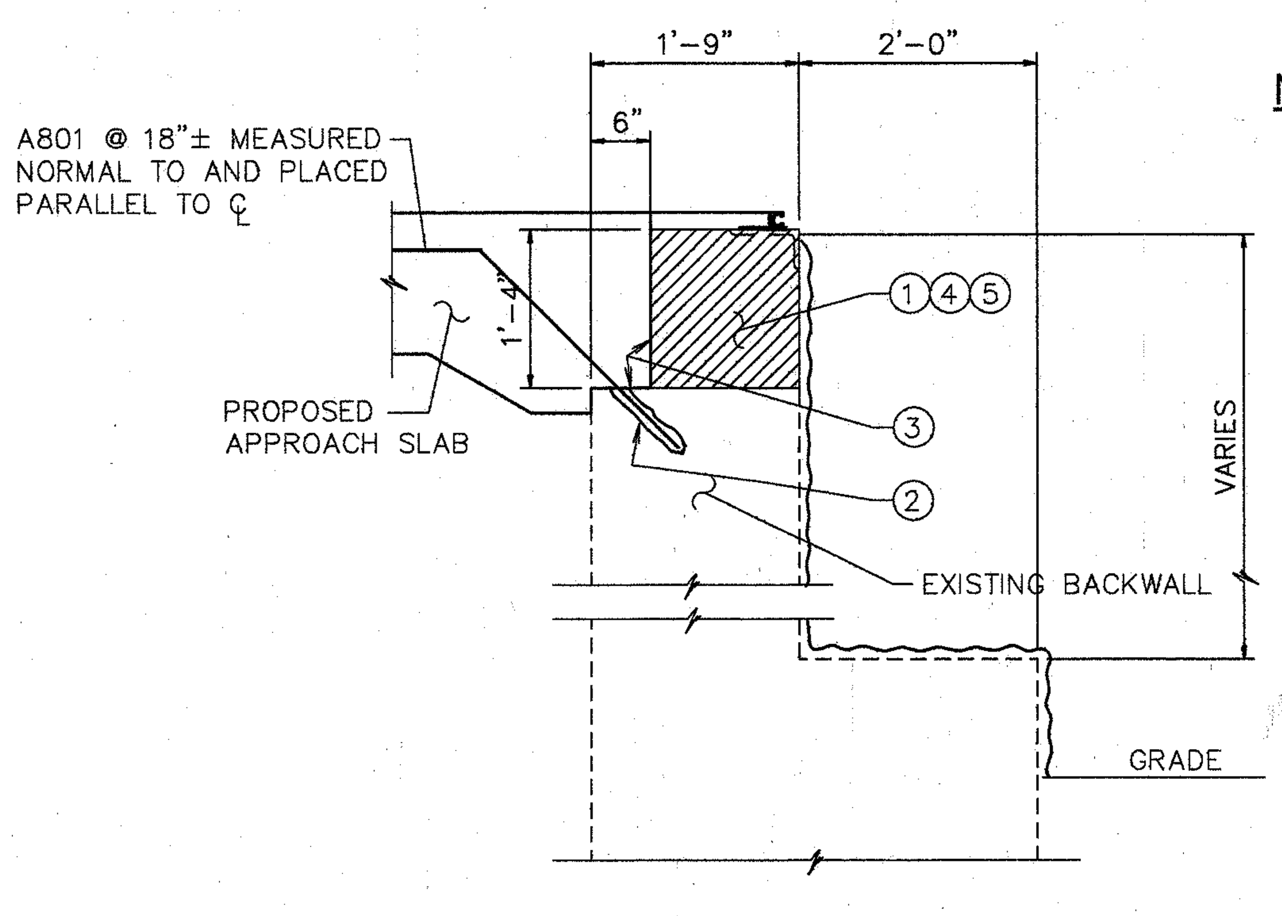
TEMPERATURE	DIM. 'A' REAR	DIM. 'A' FORWARD
40° F	3⅛"	3⅛"
50° F	3"	3⅛"
60° F	2⅞"	3"
70° F	2¾"	3"
80° F	2¾"	3"
90° F	2⅝"	2⅞"



SECTION K-K



SECTION M-M



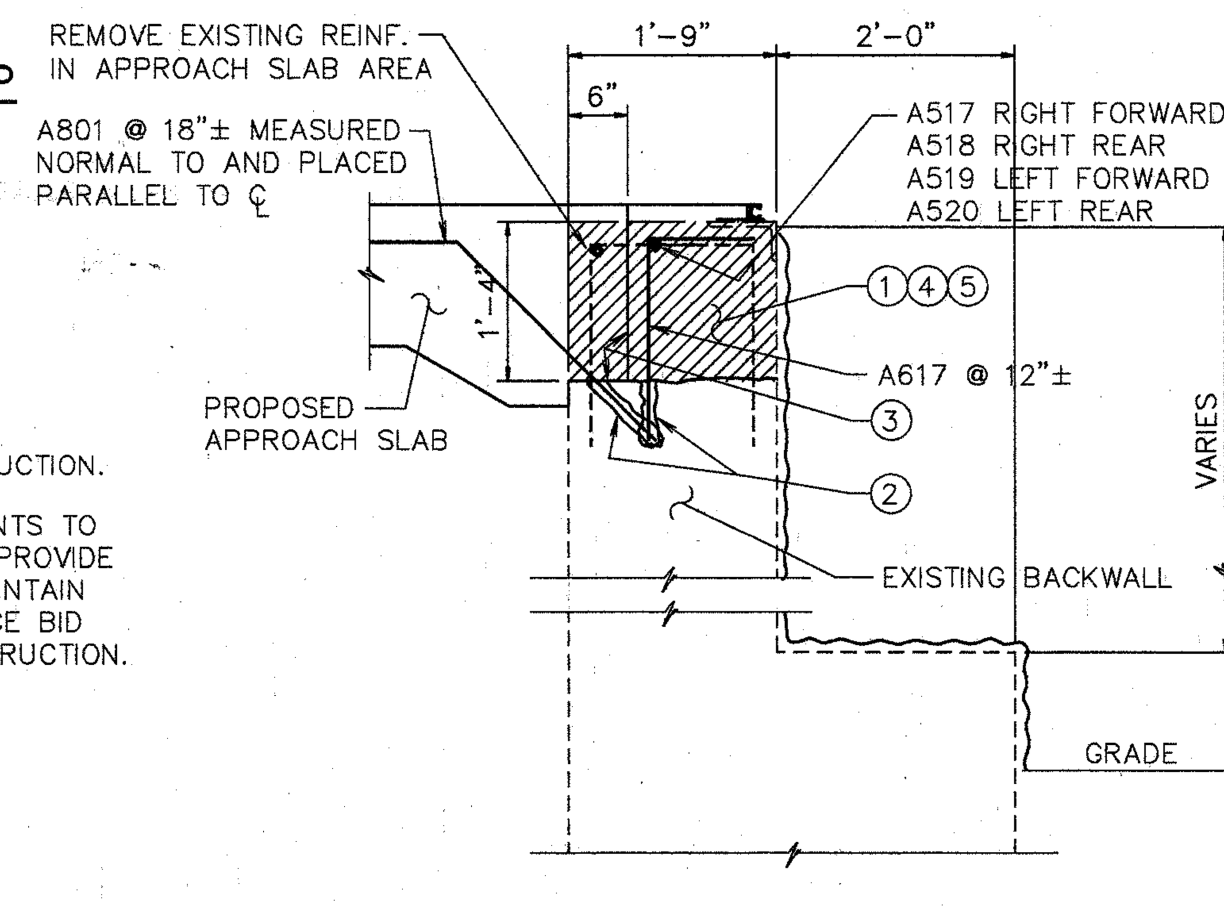
SECTION P-P

NOTES FOR SECTION L-L & P-P

1. EXISTING REINFORCING STEEL TO REMAIN ~ REINFORCING STEEL DAMAGED TO BE REPLACED AT CONTRACTORS EXPENSE.
2. 1' MIN. EMBEDMENT (SEE DOWEL HOLE GENERAL NOTE) ITEM 510.
3. TYPE 'A' WATERPROOFING (PAYMENT INCLUDED IN THE PRICE BID FOR APPROACH SLAB).
4. CLASS 'C' CONCRETE, ABUTMENT RECONSTRUCTION.
5. PROVIDE CONTRACTION AND EXPANSION JOINTS TO MATCH THOSE IN EXISTING BACKWALL AND PROVIDE CONSTRUCTION JOINTS AS REQUIRED TO MAINTAIN TRAFFIC. PAYMENT TO BE INCLUDED IN PRICE BID FOR ITEM 511 CLASS C CONCRETE RECONSTRUCTION.

EXISTING CONCRETE TO BE REMOVED INCLUDE IN ITEM 202 FOR PAYMENT.

SURFACE TO BE SEALED UNDER ITEM SPECIAL- 'SEALING OF CONCRETE SURFACE, EPOXY'.



SECTION L-L

SEE NOTES SHT. 2/4

WOOLPERT CONSULTANTS
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DAYTON, OHIO 45402-1226
(513) 461-5660

MISCELLANEOUS DETAILS

BRIDGE NO. HAM-71-1063 R
OVER CO. RD. No. 327

HAMILTON COUNTY

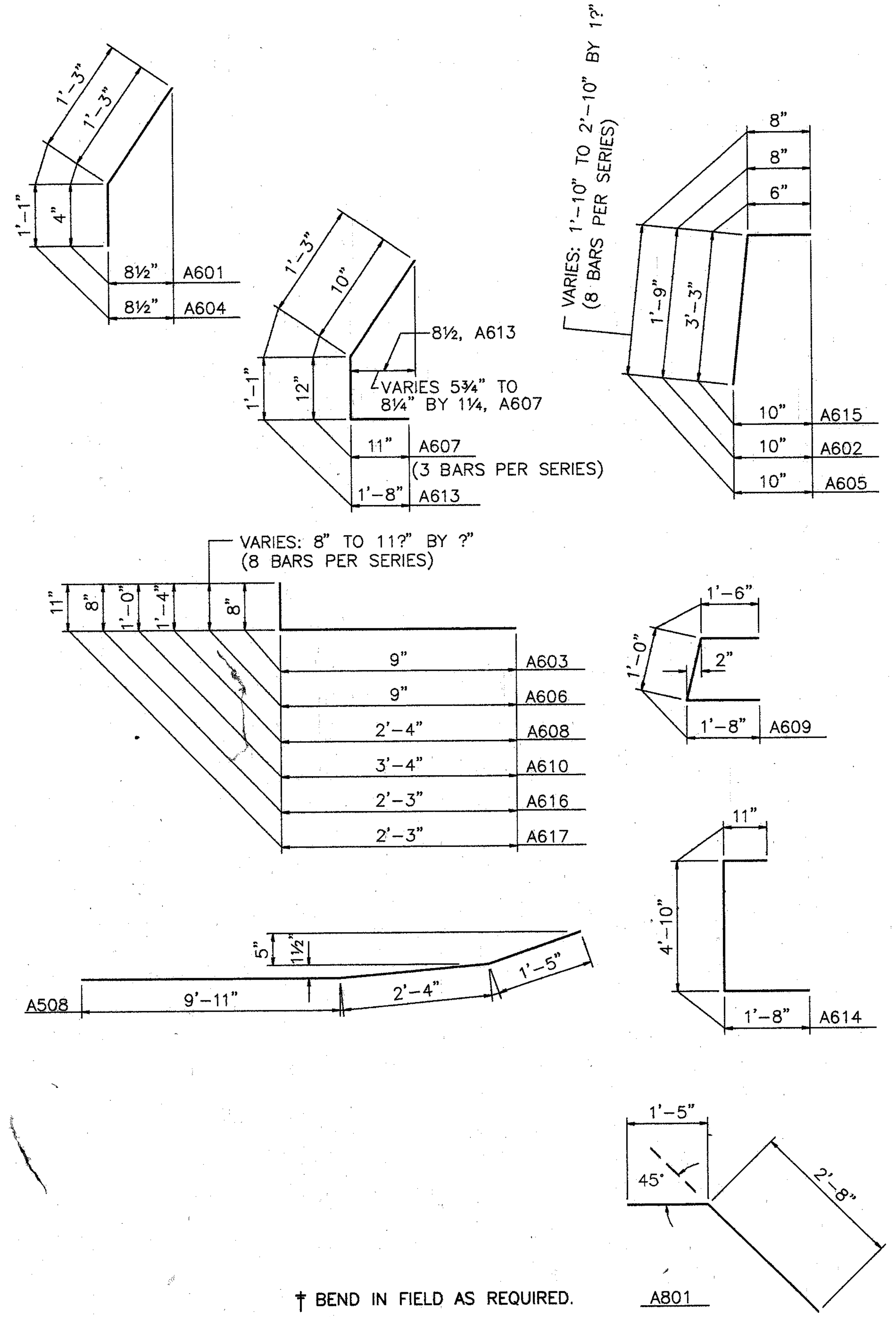
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	1/11/94	

REINFORCING STEEL LIST

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
PARAPETS				
A501	STR.	38	30'-0"	1189
A502	STR.	2	5'-7"	12
A503	STR.	2	29'-6"	62
A504	STR.	59	13'-7"	836
A505	STR.	101	13'-11"	1466
A506	STR.	6	5'-0"	31
A507	STR.	4	13'-8"	57
A508	BNT. †	2	13'-8"	29
A509	BNT.	4	13'-8"	57
A510	STR.	2	11'-0"	23
A511	STR.	4	12'-0"	50
A512	STR.	4	18'-9"	78
A513	STR.	5	27'-2"	142
A514	STR.	5	21''-4"	111
A515	STR.	1	27'-11"	29
A516	STR.	1	20'-10"	22
A517	STR.	1	11'-4"	12
A518	STR.	1	13'-9"	14
A519	STR.	1	14'-2"	15
A520	STR.	1	15'-5"	16
A601	BNT.	518	1'-6"	1167
A602	BNT.	259	2'-5"	941
A603	BNT.	259	1'-3"	486
A604	BNT.	38	2'-3"	128
A605	BNT.	16	2'-6" TO 3'-6"	72
A606	BNT.	16	1'-3" TO 1'-7"	34
A607	BNT.	6	2'-6"	23
A608	BNT.	6	3'-6"	32
A609	BNT.	2	3'-10"	12
A610	BNT.	4	4'-2"	25
A611	STR.	4	1'-2"	7
A612	STR.	4	10"	5
A613	BNT.	2	3'-9"	11
A614	BNT.	2	7'-1"	21
A615	BNT.	281	3'-7"	1512
A616	BNT.	281	2'-9"	1161
A617	BNT.	45	3'-0"	203

BENT BAR DETAILS

MARK	SHAPE	NUMBER	LENGTH	WEIGHT
PARAPETS				
A801	BNT.	116	4'-0"	1239
REPLACEMENT STEEL				300
			TOTAL	11630



† BEND IN FIELD AS REQUIRED.

ITEM	ITEM EXT.	TOTAL	UNITS	DESCRIPTION
202	11200	LUMP SUM	L.S.	PORTIONS OF STRUCTURE REMOVED
202	23501	1300	S.Y.	WEARING COURSE REMOVED (ASPHALT), AS PER PLAN
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511	45700	15	C.Y.	CLASS C CONCRETE, ABUTMENT RECONSTRUCTION
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SPECIAL	51267502	301	S.Y.	SEALING OF CONCRETE SURFACE (EPOXY) *
513	21000	18	EACH	TRIMMING OF BEAM END
SPECIAL	51400050	41,195	S.F.	SURFACE PREPARATION OF EXIST. STEEL, SYSTEM OZEU *
SPECIAL	51400056	41,195	S.F.	FIELD PAINTING OF EXIST STEEL, PRIME COAT, SYSTEM OZEU *
SPECIAL	51400060	41,195	S.F.	FIELD PAINTING OF EXIST STEEL, INTERMEDIATE COAT, SYSTEM OZEU *
SPECIAL	51400066	41,195	S.F.	FIELD PAINTING OF EXIST STEEL, FINISH COAT, SYSTEM OZEU *
SPECIAL	51400504	100	MAN HOUR	GRINDING FINS, TEARS, AND SLIVERS *
516	14600	26	L.F.	STRUCTURAL JOINT OR JOINT SEALER, MISC.: 2"x4" SEALER, AS PER PLAN
516	11210	217	L.F.	STRUCTURAL EXP. JT. INCLUDING ELASTOMERIC STRIP SEAL
516	45304	21	EACH	REFURBISH BEARING DEVICE
517	76201	282	L.F.	RAILING FACED, AS PER PLAN (32" HIGH")
517	76201	286	L.F.	RAILING FACED, AS PER PLAN (50" HIGH")
516	45307	1	EACH	REFURBISH BEARING DEVICE, AS PER PLAN
518	12700	20	EACH	SCUPPER, VERTICAL EXTENSION
518	63300	LUMP	L.S.	SCUPPER AND DRAINAGE PIPE CLEANOUT
601	20001	60	S.Y.	CRUSHED AGGREGATE SLOPE PROTECTION, AS PER PLAN
519	11100	6	S.F.	PATCHING CONCRETE STRUCTURE
845	40210	2526	S.Y.	LATEX MODIFIED CONCRETE, MISC.: OVERLAY (1¾" THICK) ON EXISTING DECK
845	11000	99	C.Y.	LATEX MODIFIED CONCRETE OVERLAY (VARIABLE THICKNESS)
845	30000	2	C.Y.	FULL DEPTH REPAIR

* SEE PROPOSAL NOTE

PROPOSED WORK

1. MODIFY PARAPETS ON THE SUPERSTRUCTURE & ABUTMENTS. SEAL PARAPETS AS SHOWN ON PLANS. (INSTALL PLATES FOR STRIP SEAL EXP. JT.).
2. SCARIFY EXISTING DECK ¼", AND REMOVE DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER.
3. REFURBISH BEARINGS.
4. PLACE 1¾" THICK LATEX MODIFIED CONCRETE ON DECK.
5. SEAL BACKWALL.
6. RECONSTRUCT ABUTMENT BACKWALLS ABOVE APPROACH SLAB SEAT.
7. SEAL EXPANSION JOINT WITH STRIP SEAL.
8. PLACE GUARDRAIL AS SHOWN ON ROADWAY PLANS.
9. TRIM BEAM ENDS TO 2" CLEARANCE (OR AS CLOSE TO 2" AS POSSIBLE).
10. EXTEND SCUPPERS.
11. REPAIR SLOPE PROTECTION.
12. PAINT EXISTING STEEL STRUCTURE WITH SYSTEM OZEU.
13. AT LEAST ONE LANE OF TRAFFIC SHALL BE MAINTAINED ON THE BRIDGE AT ALL TIMES. FOR NOTES SEE MAINTAINENCE OF TRAFFIC PLANS.
14. OTHER WORK AS DESCRIBED IN THESE PLANS.

CALC. BY L.A.T.M. DATE 4-25-94
CHK'D BY D.E.M. DATE 10-4-94
HAM-71-1.30/9.00
OHIO
F.H.W.A. REGION 5
401 / 401

WOOLPERT CONSULTANTS
409 E. MONUMENT AVENUE
DAYTON, OHIO 45402-1226
(513) 461-5660

4 / 4

QUANTITIES AND GENERAL NOTES

BRIDGE NO. HAM-71-1063 R
OVER CO. RD. No. 327

HAMILTON COUNTY

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
L.A.T.M.	D.E.E.		M.A.A.	D.E.M.	1/11/94	

Last Plot: MAY 15, 1995 @ 8:01 PM Last Revision By: RACH MAY 17, 1994 @ 2:00PM

2nd 8 tail (109-108) and 101 17 may